TECHNOLOGY DEPT.

TELEPHONE and Management ENGINEER

OCTOBER
1956

V. 60 #10

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THE NATIONAL TELEPHONE MAGAZINE

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★ USITA CONVENTION REPORT AND PHOTOS ★ CONFERENCE REPORTS

★ INDEPENDENT INDUSTRY LOOKS TO THE FUTURE, *by Merle M. Hale*

★ TOLL COMPENSATION PROBLEMS, *by W. R. Jarmon*

★ PLANNING PLANT PRACTICES, *by T. DeWitt Talmage*

★ MODERN CABLE CONSTRUCTION, *by John S. Reed*

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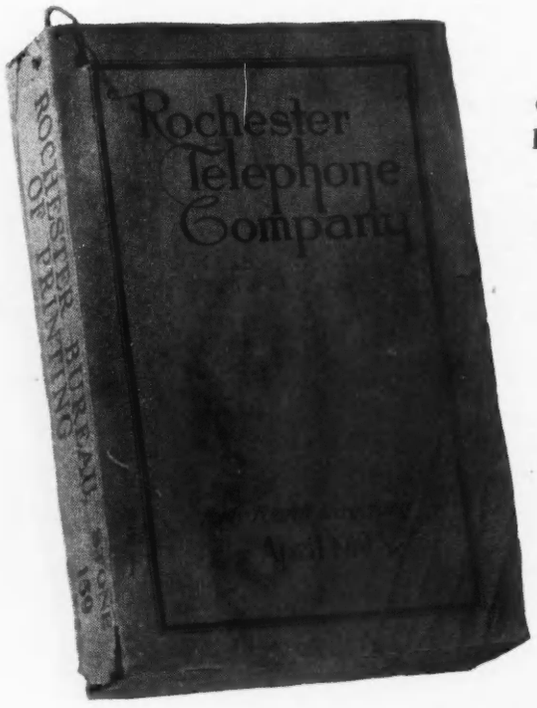

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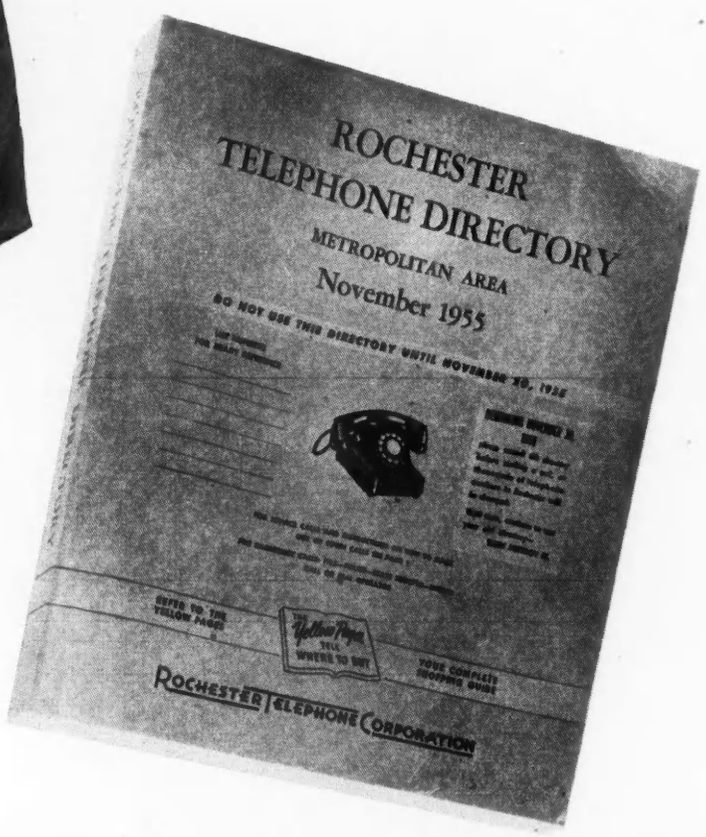

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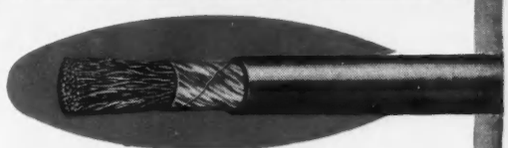

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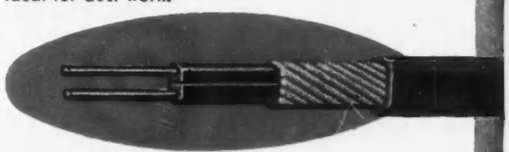

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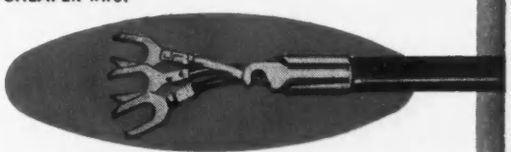

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TELEPHONE and Management ENGINEER

A Telephone Engineer Publication

OCTOBER 1956
Vol. 60 No. 10

The National Telephone Magazine

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FRONT COVER

Peninsular Telephone Company president and four department heads present half hour telephone educational panel program over television station WTVT at Tampa, Florida. Left to right, CARL D. BROREIN, president and general manager; M. L. DONALDSON, chief operator; B. N. DARLINGTON, general plant superintendent; GEORGE W. ROSE, general trafffic superintendent, and moderator J. HARTWELL JONES, director of advertising and publicity.

Volume 60, No. 10. Published monthly by TELEPHONE ENGINEER PUBLISHING CORP. Office of Publication, Rochelle, Ill. Executive and Editorial Office, 7720 Sheridan Road, Chicago 26, Ill. Telephone — Rogers Park 4-3040. Subscriptions: U. S. and Possessions, $3.00 per year; Canada $3.50; in all other countries, $5.50. Single copies, U.S.A., 35 cents. Entered as second class matter at the post office at Rochelle, Ill. under the act of March 3, 1879. Copyright 1956 by Telephone Engineer Publishing Corp.

OUT OF *This*---

CAME

94,000,000

TELEPHONES

ALEXANDER GRAHAM BELL would no doubt be astounded if he could see the monumental worldwide network of voice highways, linking more than 94,000,000 telephones, which has resulted from his primitive invention in 1876. Speaking from room to room with Mr. Watson, he began one of the greatest advances in communication history. We now span the continent with our voices, and take for granted all those miles of underground conduits, elaborate and intricate "almost human" electrical apparatus, and all the research that has gone to bring the telephone to its present peak of efficiency.

Much of that "almost human" electrical apparatus is Lorain Products equipment. Its part in the intricate communications system is always a vital one, with the operation of the entire system often depending upon it. Under this responsibility, quality is a "must". We at Lorain are proud of the quality of our equipment, because we know it means better, more reliable service for you and your customers. Quality is never anonymous—invariably it has a famous name—a name that inspires unquestioning confidence. This confidence is yours when you buy Lorain equipment. For two decades this famous name has been the symbol of utmost dependability, and unmatched performance . . . giving lifetime, trouble-free, maintenance-free service to its users. We know that there are exciting possibilities ahead for the telephone industry, that only the surface has been scratched in this business, and we are constantly expanding our production facilities, doing never-ending research; doing our part to meet the challenge and to keep pace with world communications.

Whatever your power problem may be, our methods and facilities are yours to command. Without obligation, your problem will get expert, prompt attention. Our engineers will bring to your problem the benefit of many years of telephone power experience. If our standard equipment does not meet your requirements, we will design to meet your individual specifications. So phone, wire, or write . . . today.

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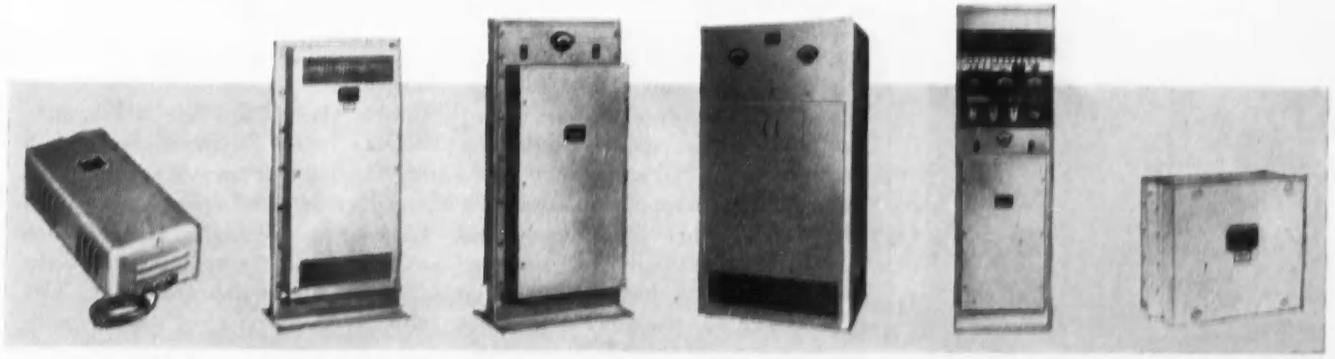
RINGING AND CHARGING EQUIPMENT!



Ringing-Talking Units
Eliminate the necessity for multiple or complicated installations by combining in one compact cabinet both ringing and talking power supply. Operate from 111, 117, or 123 volts, 60 cycle supply.

S-5 Sub-Cycle
One of a complete line of multi-frequency ringing converters. Utilizes Sub-Cycle circuits of proven dependability to generate Synchromonic frequencies. Adequate reserve capacity for exceptional load conditions.

Single Phase Flotrols
Capacities up to 24 amp. Most models available as Battery Eliminators. Special model FLOTROLS with particularly low sound level for PBX installations if equipment is in a business office.

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For plants requiring 25 amperes or more charging capacity. Current limiting feature protects charger against overloads. Exceptionally low power consumption especially during light load periods.

Lorain Power Panels
Regulated supplies with 2.5 to 50 ampere capacity for constant and fluctuating loads. With distribution, supervision and control features. Maintain regulated voltage normally and during power failures.

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Provide 130 volt plate current for carrier or repeater operation. Normally operate from 115 volt 60 cycle single phase power supply, transfer to built-in standby vibrator upon power interruptions.

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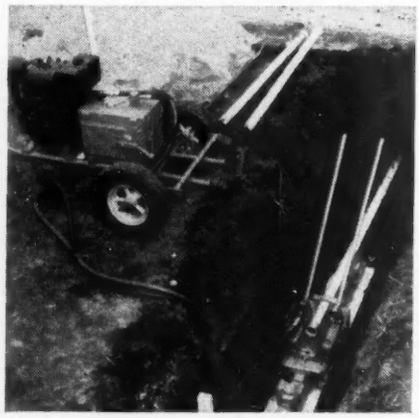
POWER EQUIPMENT FOR COMMUNICATIONS AND INDUSTRY

FAST, LOW-COST WAY TO INSTALL PIPE . . .

push it under streets, roads, tracks, lawns with a timesaving

GREENLEE HYDRAULIC PUSHER

Speed underground piping jobs this way. GREENLEE Pusher is one-man-operated (by hand or with power pump), portable, simple to set up and use. No tearing up of pavement, floors, lawns . . . does away with extensive ditching, tunneling, backfilling, repaving. GREENLEE Pusher cuts job time to a fraction . . . often pays for itself on first job.



Two feet per minute average pushing time

GREENLEE Pushers are available in two sizes: No. 790 for ¾" to 4" pipe . . . No. 795 for pipe over 4", concrete sewer pipe, large ducts. Average performance of No. 790, shown above with power pump, two feet per minute. Write for literature.

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ACROSS THE EDITOR'S DESK

Booklet From Ohio

GEORGE B. QUATMAN, president of The Telephone Service Co. of Ohio, is being congratulated by many of the telephone men throughout the country on the new booklet "*A Telephone System that Service Built.*"

This beautifully illustrated booklet marks George's 49th year of service to the industry and is a fitting tribute to his accomplishments. It gives an running history of the founding and growth of the company that operates the six groups of operating companies in Ohio. In our travels since seeing the booklet we have talked to a number of telephone men that tell us they have picked up some of the ideas that made the company so successful.

Woodpecker Trouble

THE WOODPECKERS are at it again. *D. J. Neale Sr.* sent us a little square of lead which he cut off a lead sleeve while he was visiting a government base in Texas. Knowing of our earlier years in that state, he told us the round hole in the lead was pecked by woodpeckers of that region. It was only one sleeve of 14 that received the same treatment. The woodpeckers have been slowed down somewhat by wrapping the sleeves with woven fibre glass tape. This diet, he reports, might be the answer to other Texans having the same trouble. Dory J. also gave us a report on the success of the NT-30 terminals on the base. Mr. Neale is president of the Neale Construction Co., Topeka, Kan.

The Bellamy Family

THAT WAS a very nice tribute to the *Bellamy* family *Bill Miller* included in a recent issue of his "*Transmitter*" mailed to all members of the Iowa Independent Telephone Association. Besides carrying the pictures of the three generations of Bellamys that have guided the destiny of the Bellamy Telephone Co. since its founding the story of its present day success was brought up to date. *Earle G. Bellamy*, the present boss man, has served as president of the Iowa association for the years 1950-52 and is a director of the USITA.

Milt Stewart

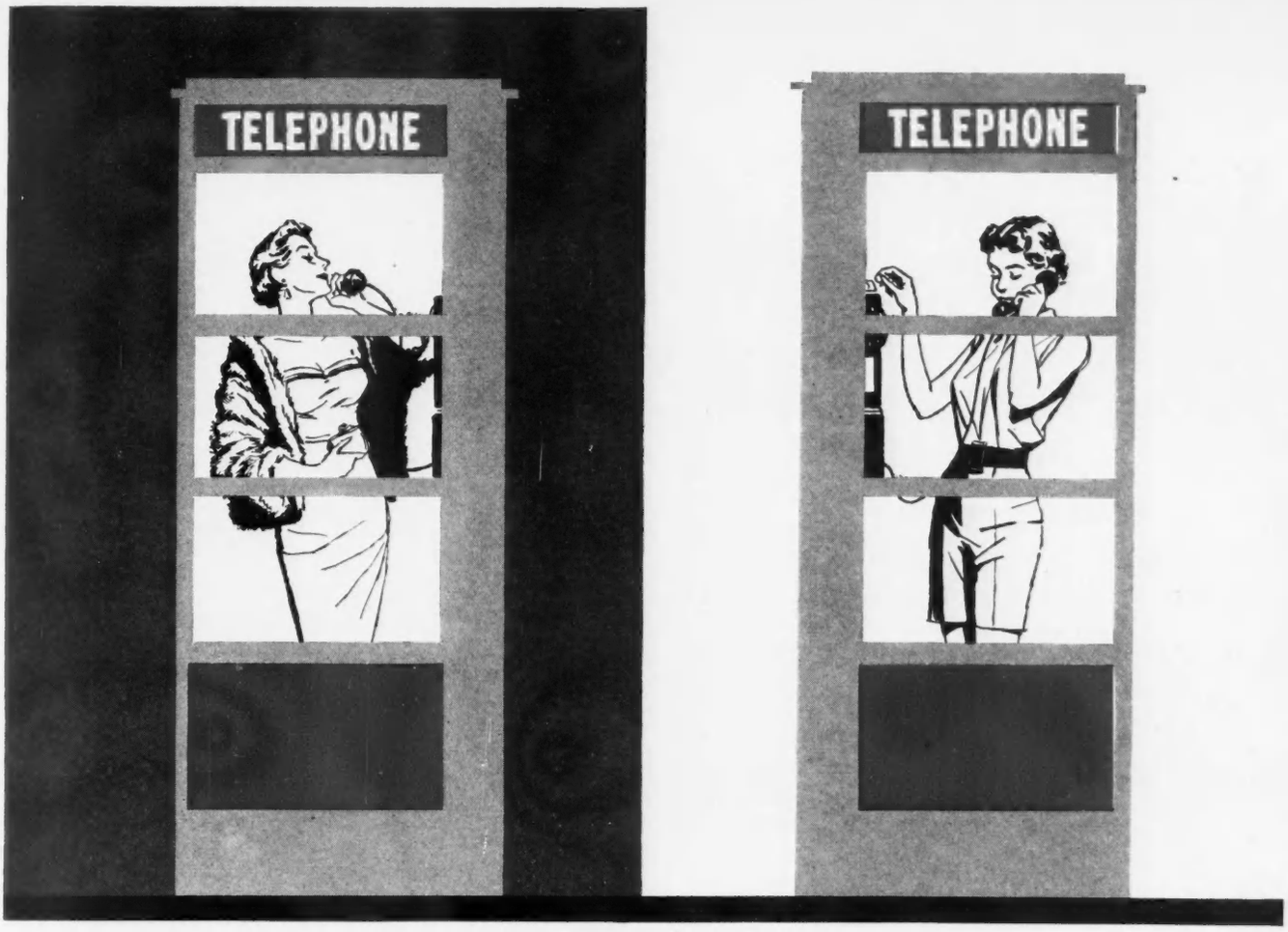
H. M. STEWART of Cornelia, Ga. has done it again. We are beginning to think the editors of the local papers published in his area of Georgia are on his payroll for it is seldom that our monthly basket of clippings do not have several items on the progress his *Standard Telephone Co.* is making in the state of Georgia. We have known *Milt Stewart* for many years from his operations in many states before he took on this project in Georgia and know his popularity.

The Blomeyers

HERE ARE some more addresses of telephone folks who at present are not active in our industry. *E. C. Blomeyer* has a permanent address at 145 Chilean Ave., Palm Beach, Fla. altho he and Mrs. Blomeyer open their place at Lake Geneva, Wis., each summer so they may enjoy their family visits from the children. *Earle Blomeyer* has built a home near Atlanta, Ga., and will operate from 3955 Wiltshie Drive, Avondale Estates, Ga.

Convention Report

THIS IS BEING written prior to the annual convention of the USITA here in Chicago but will not be read by you until after the convention. This issue is our *Convention Report Number. John G. Reynolds*, our Managing Editor, and the Staff have worked overtime to rush you this report the week following the convention. We hope you like it!



Night and day, these new Alcoa Booths earn money for you

By day it's a brightly colored booth that invites patrons to make that *extra* call. At night it's brightly lighted—easy to see and easy to use. Alcoa's new outdoor phone booths earn revenue for you 24 hours a day.

Other than an occasional washing with soap and water, these Alcoa® Aluminum Booths will practically never need maintenance. The surfaces are anodized aluminum, a process developed by Alcoa, which produces a very hard, durable, corrosion-resistant finish. Alcoa Booths stay bright and shiny with no painting. Pencil marks and smudges wipe right off.

Sturdy Alcoa Booths have the full approval of the REA and Underwriters' Laboratories, Inc. The main sections are high-strength, heat-treated extruded shapes. Sections are interchangeable and can readily be replaced if damaged by traffic.

Patrons like the roomy interior of Alcoa Booths—33½" square by 86½" high. Good ventilation is provided by louvers. A handy shelf holds shoppers' packages.

Contact your jobber or write for more information on Alcoa's new money-making booths—another product of Alcoa's Jobbing Division. Aluminum Company of America, 1691-K Alcoa Bldg., Pittsburgh 19, Pa.

THE ALCOA HOUR
TELEVISION'S FINEST LIVE DRAMA
ALTERNATE SUNDAY EVENINGS

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

Your Guide to the Best in Aluminum Value

TRANSATLANTIC CABLE PLACED IN SERVICE

A LONG DISTANCE CALL to London on September 25 inaugurated the world's first transoceanic telephone cable system. Ceremonies marking the first physical voice link between this continent and Europe were held in New York, London, and Ottawa. The phone link, which can carry up to 36 conversations simultaneously, will tie together telephone communications between U. S., Canada, and England. The project was undertaken two years ago jointly by AT&T, the British Post Office, and the Canadian Overseas Telecommunication Corporation. These three will own the cable system.

CONSTRUCTED AT A COST of about $42 million. more than 2,000 miles of the telephone link, (from Oban. Scotland, to Clarenville, New Foundland) will lie on the ocean floor. A single shallow water cable will carry transatlantic circuits from Clarenville to Sidney Mines, Nova Scotia, where cables are connected by radio relay to Portland, Maine. From there, circuits will be fed into the Bell System's U. S. network. At the other end, the two cable routes are used to carry transatlantic circuits to London; one runs through Glasgow and the other through Edinburgh, Scotland.

SINCE 1927, the only telephone service between this country and Great Britain was provided by radiotelephone. There are 12 circuits now and they will remain in use. In addition to voice transmission, the new cable system will be used to transmit radio broadcasts. The system, however, cannot be used for television.

280 MILLION CALLS DAILY

LATEST STATISTICS compiled by American Tel. & Tel. Co. show that as of June 30, 1956, there were 58,083,000 telephones in service in United States, of which more than 8,500,000 are operated by Independent companies. About 74 percent of nations 48,000,000 households now have telephone service, and average daily number of telephone conversations totals 218,000,000.

KAPPEL ELECTED AT&T PRES.

AT MEETING of AT&T Co. directors on Sept. 19, Cleo F. Craig was elected chairman, and Frederick R. Kappel was elected president. Mr. Craig had been president since 1951. Mr. Kappel had been president of Western Electric Co. since January 1, 1954.

MR. CRAIG, a native of Rich Hill, Mo., has spent his entire telephone career with AT&T. On graduation from the University of Missouri in 1913 with a BS degree in electrical engineering, he joined the Bell System as an equipment man with Long Lines in St. Louis. In 1933 he became Long Lines general manager and seven years later was elected vice president in charge of the department. He moved to AT&T Headquarters as vice president in charge of the personnel relations department in 1941, later becoming head of the O&E department. Before taking over the post of AT&T president in 1951 he served as vice president in charge of finance and revenue requirements.

A NATIVE of Albert Lea, Minn., Mr. Kappel was graduated from the University of Minnesota in 1924 with a BS degree in electrical engineering. He entered the Bell System in 1924 as a groundman with the Northwestern Bell Tel. Co. and thereafter held a number of engineering and operating positions. He was elected as vice president and director of Northwestern Bell in 1942. In 1949 Mr. Kappel came to AT&T. That same year he was elected vice president and placed in charge of the Long Lines Department. He served as vice president in charge of the O&E department before taking over the presidency of Western Electric.

"CRADLE-TO-GRAVE" ACCOUNTING

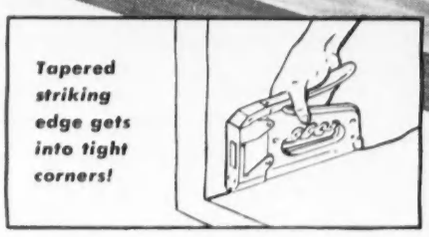
THE "CRADLE-TO-GRAVE" method of accounting for telephone station equipment was formally adopted by the FCC last month, after consideration of comments by interested parties on the proposed rules issued earlier. Only minor amendments were made in the original proposal, which provides that class A and B telephone companies would carry telephone station apparatus in the telephone plant in service account continuously during its physical life. Station inside wires and drop and block wires would be classed as depreciable telephone plant, instead of being charged to a maintenance expense account upon retirement.

AFTER REVIEWING comments by the American Telephone & Telegraph Co. and the Western Union

(Please turn to page 10)

One Arrow staple gun fastens them all!

ONLY ARROW'S T-25 STAPLE GUN TAKES 3 STAPLE SIZES TO FASTEN ANY INSIDE OR OUTSIDE WIRE UP TO ¼" DIAMETER!



- T-25 staple gun holds ⅜", 7/16", and 9/16" round crown, rust resistant staples, a full ¼" in width.
- Safe! No short circuits possible — automatic mechanism stops staple at right height.
- Short span handle provides comfortable grip — minimizes fatigue.
- Arrow tackers are jam-proof! Can't jam even when struck against metal! Never any lost time on the job. Fully guaranteed.
- No wire sag ever! If staple used doesn't hold wire taut, simply use next shorter leg length to insure firm hold and neat job.
- Staple leg lengths are long enough to insure firm hold in wood, plaster or composition board, etc. Tack-pointed staple legs diverge to give even greater holding power.
- Check staple supply in tacker simply by looking on underside of gun.

T-25 LIST PRICE: **$15.00**

Try Arrow without obligation!
Tackers will sent on approval for testing purposes. Send request to Telephone Division.

Available at your regular supply house. Priced for volume use!

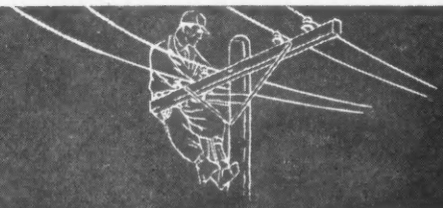
ARROW T-75 FOR ANY INSIDE OR OUTSIDE CABLE UP TO ½" IN DIAMETER!

- T-75 tacker holds 9/16", ⅝" and ⅞" tack-pointed, rosin-coated staples, a full ½" in width.
- Fastens 21 pair inside wiring cable, 26 pair, 12 pair wires, etc.
- Has all above mentioned Arrow features (except tapered head) to insure maximum speed and efficiency of operation!

T-75 LIST PRICE: **$15.00**

ARROW FASTENER CO. INC. 1 Junius Street, Brooklyn 12, N. Y.

Industry NEWSLETTER



(Concluded From Page 8)

Telegraph Co. on the question of accounting treatment of teletypewriters, the FCC decided to leave the proposed rule unchanged on that subject. It would apply the "cradle-to-grave" approach to teletypewriter station equipment, without setting up a separate account for the teletypewriter apparatus. Western Union had urged segregation of plant used for record communications services insofar as possible.

THE COMMISSION COMMENTED that "In view of Western Union's statement of no objection to the adoption of the proposed revisions and the fact that its stated goal to obtain a high degree of comparability in the accounting for telegraph plant by telephone companies and telegraph companies raises questions far broader in scope than those embraced in the instant rulemaking proceeding, we have concluded that we should not take any steps herein toward denying 'cradle-to-grave' treatment for teletypewriters and other telegraph equipment in account 231, or toward placing such equipment in a separate plant account."

NEW RULE FROM OHIO

A SET of proposed rules, aimed at stabilizing telephone rates for new subscribers, was drawn up last month by the Ohio Utilities Commission. The rules would make uniform throughout the state the amount telephone companies may charge new subscribers when telephone line extensions are needed to give them service.

REA REPORTS ON LOANS

SINCE THE START of the Rural Electrification Administration farm telephone program, REA has made loan allocations to 197 cooperatives, totaling $169,568,192, and 283 to commercial companies, totaling $152,309,350, a statistical summary brought out last month. Advances to borrowers have amounted to $95,492,431 to co-ops and $69,265,947 to commercial companies, it was reported. At the end of August REA had 148 applications on hand for telephone loans, totaling $48,306,000.

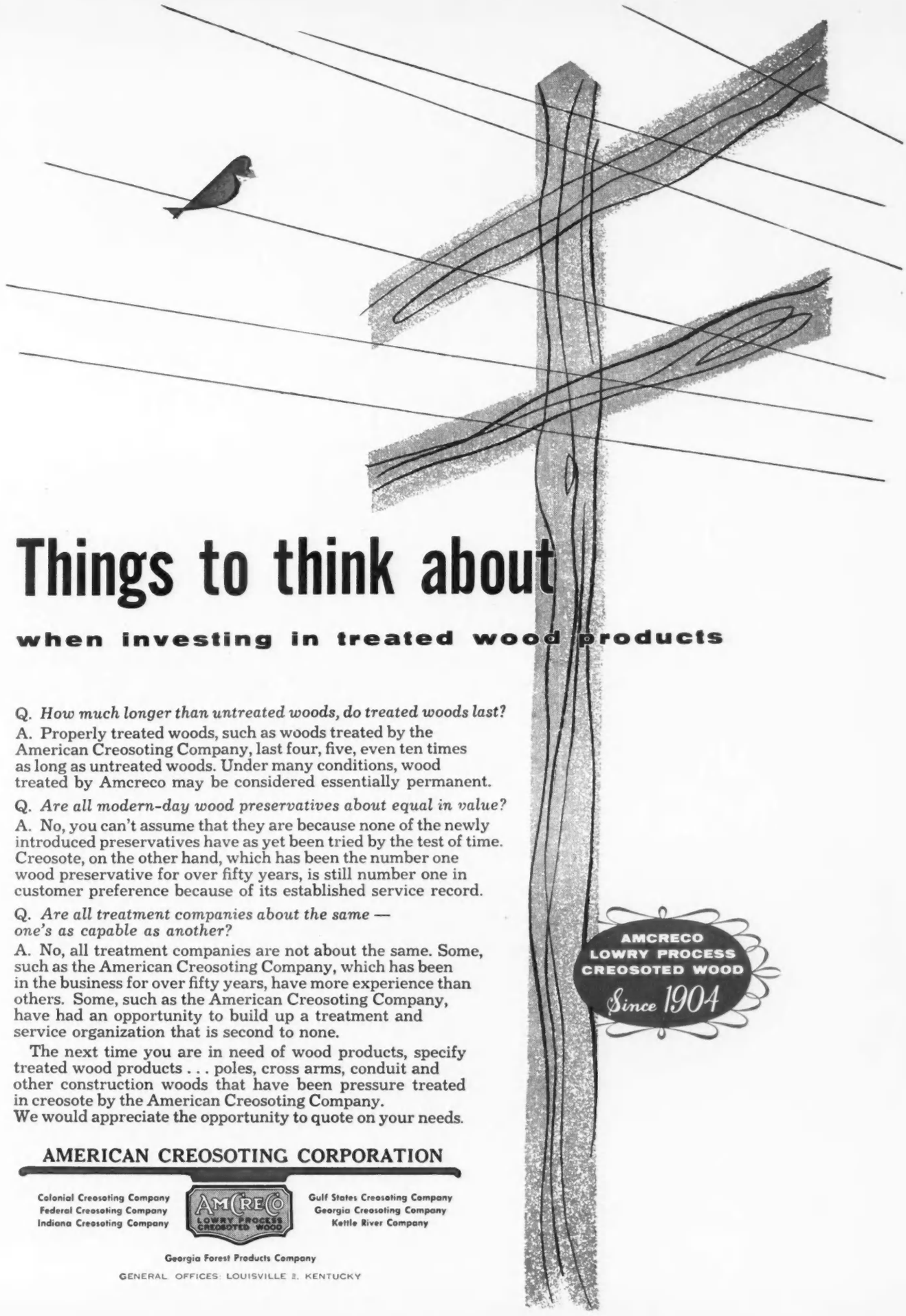
NEW OWNERS

GENERAL TEL. CO. of N. W. purchased Mesa and Eltopia, Wash. exchanges from Paul Baldinger, owner of the Columbia Flats Tel. Co. . . . Golden City (Mo.) Tel. Co., owned by Mr. and Mrs. William Bagby, has been sold to Vernon Higginboathum of Walnut, Kans. . . . A. W. Sanders, vice-pres. and general mgr. of the Iowa-Illinois Telephone Co., has announced the company has taken options from four Iowa and four North Dakota exchanges for six months with the intention of taking them over Jan. 1, 1957. The option contract was made with the Central Tel. Co. The North Dakota properties include Devils Lake, New Rockford, Cando and Webster. Iowa exchanges are Albert City, Coon Rapids, Dedham, and Marathon.

KANSAS CORPORATION COMMISSION approved transfer of Lenora and Morland telephone exchanges to Rural Telephone Service Company, Inc., Lenora, Kans. The commission also authorized Rural Telephone Service Co., Inc., to borrow $471,000 from REA to rebuild the exchanges and convert them to dial operation . . . C. C. Pearce, Riceville, Ia., president of the Lime Springs Tel. Co., announced completion of negotiations for merger of the Cherry Grove Switch Co. with the Lime Springs company. The Cherry Grove community lies to the north of the Lime Springs area served by the Lime Springs Tel. Co., and serves 220 subscribers in the general area of Cherry Grove and Greanleafton, Minn., 10 miles north of Lime Springs . . . West Coast Tel. Co., Everett, Wash., has purchased the Peoples Tel. Co., Stanwood, which operates about 550 telephones in the Stanwood, East Stanwood and Camano Island areas . . . The Green (Kans.) Telephone Co. has been purchased by the American Communications Co., Haddam, Kans.

HIGHLIGHTS

W. TAYLOE MURPHY and H. Marston Smith, Warsaw, Va., have been elected directors of the Tidewater Tel. Co. of the Northwest. Smith succeeds Fred E. State Bank and a member of the board of directors of the Virginia Electric and Power Co., and the Standard Products Co., of White Stone, Va. Smith is a prominent young Warsaw attorney and assistant trial justice of Richmond and Westmoreland Counties . . . Al F. Smith has been named general supplies supervisor of General Tel. Co. of the Northwest. Smith succeeds Fred E. Smith who has been transferred to the company's district office at Chelan, Wash., as district plant supervisor . . . Ed Gage has been named Davenport district manager for General Telephone Co., of the Northwest. Gage succeeds Ray U. Gibson, who was the company's district manager at Davenport for many years until his recent death . . . Fred E. Smith has been named district plant supervisor of the Chelan district of General Telephone Co., of the Northwest. Smith succeeds Ed Gage, who was named to that position just a year ago when the telephone company separated its western division into two districts.



Things to think about

when investing in treated wood products

Q. *How much longer than untreated woods, do treated woods last?*

A. Properly treated woods, such as woods treated by the American Creosoting Company, last four, five, even ten times as long as untreated woods. Under many conditions, wood treated by Amcreco may be considered essentially permanent.

Q. *Are all modern-day wood preservatives about equal in value?*

A. No, you can't assume that they are because none of the newly introduced preservatives have as yet been tried by the test of time. Creosote, on the other hand, which has been the number one wood preservative for over fifty years, is still number one in customer preference because of its established service record.

Q. *Are all treatment companies about the same — one's as capable as another?*

A. No, all treatment companies are not about the same. Some, such as the American Creosoting Company, which has been in the business for over fifty years, have more experience than others. Some, such as the American Creosoting Company, have had an opportunity to build up a treatment and service organization that is second to none.

The next time you are in need of wood products, specify treated wood products . . . poles, cross arms, conduit and other construction woods that have been pressure treated in creosote by the American Creosoting Company. We would appreciate the opportunity to quote on your needs.

AMCRECO
LOWRY PROCESS
CREOSOTED WOOD
Since 1904

AMERICAN CREOSOTING CORPORATION

Colonial Creosoting Company
Federal Creosoting Company
Indiana Creosoting Company

AMCRECO
LOWRY PROCESS
CREOSOTED WOOD

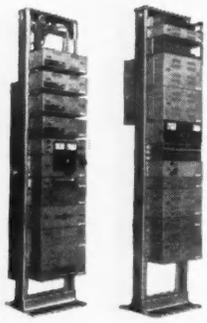
Gulf States Creosoting Company
Georgia Creosoting Company
Kettle River Company

Georgia Forest Products Company

GENERAL OFFICES: LOUISVILLE 2, KENTUCKY

Look to tomorrow

...and there's only one sensible way to expand your facilities today



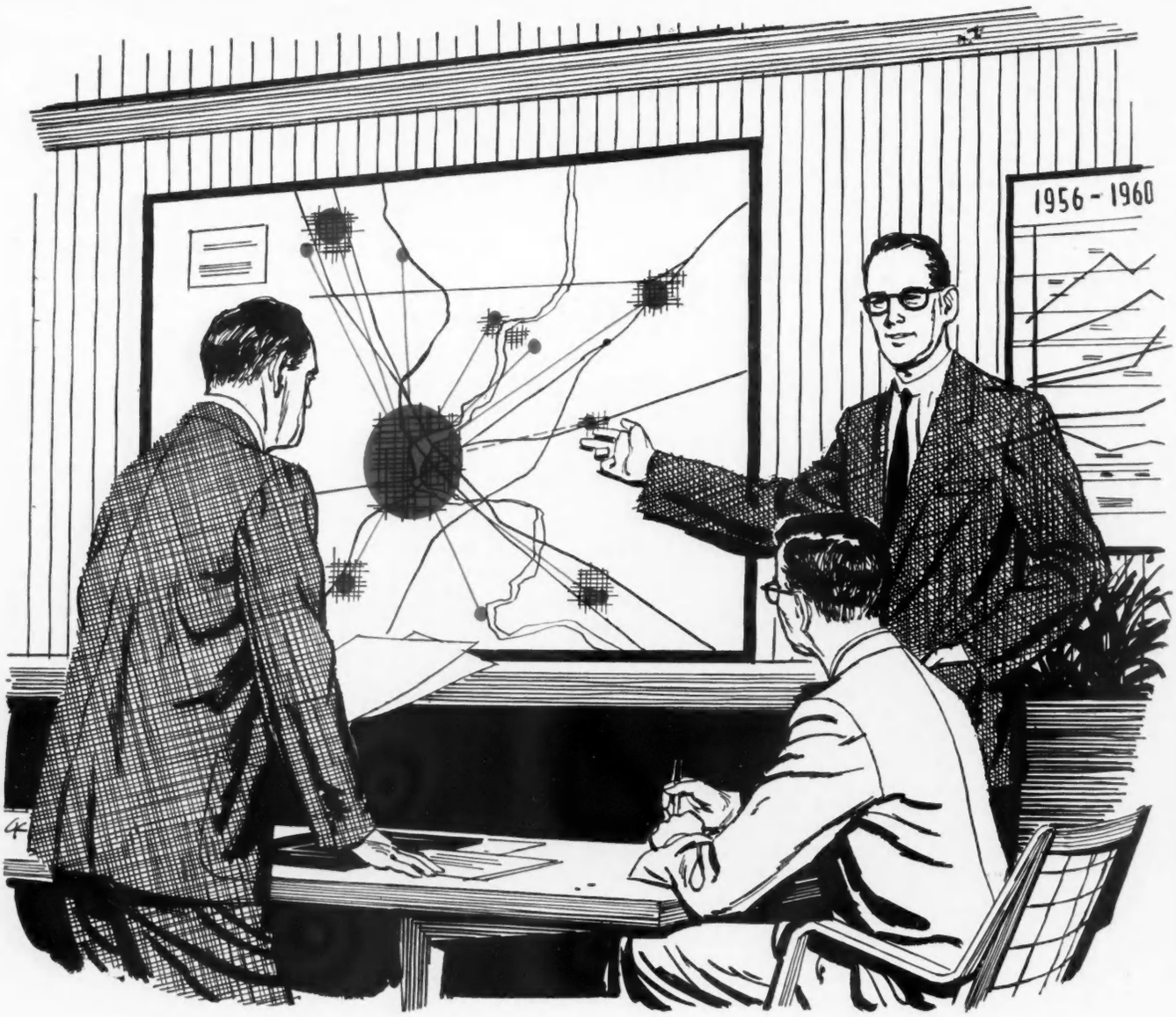
The way you expand your facilities today will measurably affect the cost of future expansion *and* the cost of maintaining your expanded facilities. Through the installation of Collins Microwave and Carrier equipment to take care of today's needs, tomorrow's needs will almost take care of themselves.

With Collins Carrier equipment you can start with the few extra channels you need now and add channels later quickly and at a minimum expense. It's simply a matter of adding module units to existing basic equipment. No wires to string, no increase in maintenance. And your own men can do the work.

Establishing new lines of communication with Collins Microwave helps assure efficiency and economy of operation through the years, too. Collins Microwave gives you a completely weather-proof system requiring a very minimum of maintenance.

Collins exclusive Mechanically Filtered Microwave and Carrier equipment is engineered for the telephone industry — completely compatible with existing facilities.

Look to tomorrow when you expand today. Write to Collins office nearest you for Collins new Brochure, "RF and Multiplex System for the Telephone Industry".



Collins **CREATIVE LEADER IN COMMUNICATION**

COLLINS RADIO COMPANY, 1930 Hi-Line Drive, Dallas 2 • 315 2nd Avenue S.E., Cedar Rapids, Iowa • 2700 W. Olive Ave., Burbank
261 Madison Ave., New York 16 • 1200 18th St. N.W., Washington, D.C. • 4471 N.W. 36th St., Miami 48 • 1318 4th Avenue, Seattle
COLLINS RADIO COMPANY OF CANADA, LTD., 11 Bermondsey Road, Toronto 16, Ontario
COLLINS RADIO COMPANY OF ENGLAND, LTD., 242 London Road, Staines, Middlesex

NOW,
Koiled Kords* available in
COLOR
to match new telephones
KOILED KORDS in color are now standard equipment on all new colored telephones offered by Independent Telephone Manufacturers. Fine, matching colors have been obtained without sacrificing the outstanding features of the well-known and popular black KOILED KORDS.
* KOILED KORDS is a trade mark of KOILED KORDS, INC.
Manufactured by Whitney Blake Co.

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INCORPORATED
BOX K, NEW HAVEN 14, CONNECTICUT

WESTERN UTILITIES CORPORATION

300 MONTGOMERY STREET • SAN FRANCISCO, CALIFORNIA

announces the purchase of

THE THORNHILL PUBLISHING COMPANY

Publishers of Telephone Directories

The Thornhill Company will operate as a Division of Western Utilities Corporation offering to the telephone industry . . .

Complete Telephone Directory Service

including advertising sales, copy and layout counsel for advertisers, photo-engraving, paging, printing of both "Classified" and "Alphabetical" sections.

Experienced Management

George B. Thornhill, Vice President and General Manager of The Thornhill Publishing Company, has had 16 years experience in telephone directory publishing plus several years in advertising, printing, photoengraving, and allied industries. The Thornhill Company now publishes 127 directories in nine western states.

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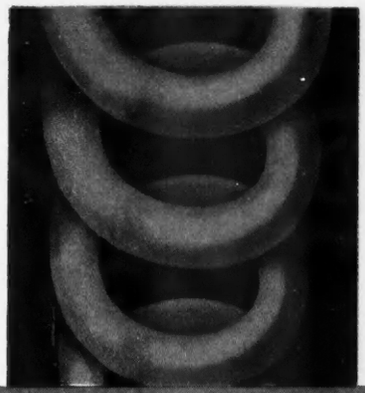
For information regarding Thornhill Directories write or telephone the Thornhill office nearest you.

202 E. Anderson St.
Brownwood, Texas
Telephone: LD 11

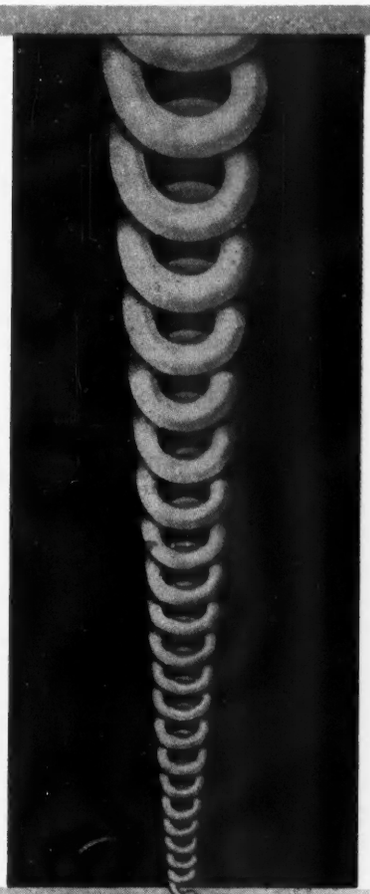
300 Montgomery St.
San Francisco, Calif.
Telephone: GArfield 1-4826

1712 Hewitt Ave.
Everett, Wash.
Telephone: Bayview 4129



RETRACTILE CORD

BY GENERAL INSULATED WIRE WORKS, INC.*



A new development backed by General Insulated's unmatched experience and know-how in the manufacture of telephone handset tinsel cordage:

***Retractile Cord* with tough, durable, non-staining Neoprene jacket for use with black telephone sets. Available with or without integral moldings and terminations.**

Straight line cords and assemblies are available in Neoprene, colored rubber or plastic.

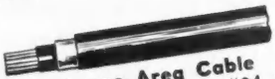
GENERAL INSULATED WIRE WORKS, INC.

Providence 5, Rhode Island

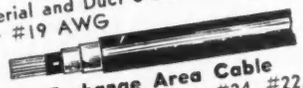
*Licensed to manufacture under existing patents.

Did you know that You Have Personnel Working at The REX CORPORATION

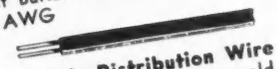
REX
QUALITY TELEPHONE WIRES and CABLES



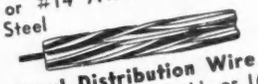
Exchange Area Cable
Aerial and Duct 6-606 Pair #24, #22, or #19 AWG



Exchange Area Cable
Direct Burial 6-606 Pair #24, #22, or #19 AWG

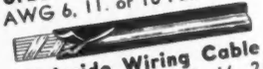


One Pair Distribution Wire
#12 or #14 AWG Copperweld or .083 Steel



Rural Distribution Wire
#19 or #22 AWG 3, 6, 11, or 16 Pair

Urban Distribution Wire
#24 AWG 6, 11, or 16 Pair



'D' Inside Wiring Cable
#24 or #22 AWG 6, 12, 16, 21, 26, 51, or 76 Pair

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Actually, these people are not represented on your payroll but they work for you just as if they were. They test all telephone wire and cable and make sure that none leaves THE REX COPORATION unless it meets our rigid specifications.

These inspectors, key people in our scheme of things, assure you of buying consistently top quality telephone wires and cables that provide high level service to your subscribers.

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THE REX CORPORATION

The REX CORPORATION

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Washington NEWSLETTER

UNUSUAL LABOR PROBLEM

THE NATIONAL LABOR relations Board has followed an unusual procedure in considering an unusual telephone labor matter, and the outcome will be of interest throughout the industry. Involved is a question of whether certain traffic employes, titled supervisors by the Bell Telephone Co., of Pennsylvania with duties somewhat similar to those of service assistants of other telephone companies, should be included in the bargaining unit represented by the Pennsylvania Telephone Union, affiliated with the International Brotherhood of Electrical Workers.

BELL OF PA. takes the position that the supervisors should not be included in the bargaining unit, citing as an example of their management status the fact that they made recommendations for promotions of employes in their charge. Bell of Pa., has asked the board, in deciding the case, to reach its finding only as it applies to the Pennsylvania Bell Company, and not to go into what would be the effects on other telephone companies. But it is apparent, of course, that once the board decides the matter it will be a precedent in other areas of the telephone industry.

IN A 1953 CASE, the NLRB ruled that about 400 employes of the General Telephone Co., of California should not be included in the bargaining unit represented by the Communications Workers of America because they rated the performance of subordinates on a standard form.

THE FULL MEMBERSHIP of the NLRB sat for an oral argument between the company and union, an unusual development in a case where there is no move toward an election by either party, and where the union's status as representative of the employes is not in question. The board's decision that all its members should hear the case is believed to be indicative that the agency considers the matter of first-rank importance.

THE UNION HAS CHARGED that the case is a "union-busting" move by Bell of Pa., pointing out that all of the traffic union's present officers would be lost to the group if the NLRB decided the supervisors could not be members of the bargaining unit. The union also contends that it would become possible to "destroy" unions of engineers, technicians, and similar personnel.

ACCOUNTING QUESTION

AN ACCOUNTING question with significant dollars and cents aspects has been laid before the Federal Communications Commission by the General Telephone Corp. The matter is the regulatory treatment of the optional accelerated depreciation provision included in the 1954 tax overhall bill by Congress, under which companies may elect, for tax purposes, to take most of the cost of new property and plant in the first half of its depreciable life. The result is lower taxes during the early period of the investment, although — all other things being equal — the tax load will even out over the full useful life of the property.

CONGRESS SETTLED — at least until the law is changed — the matter of tax treatment of accelerated depreciation, but the question of regulatory treatment is being decided only gradually. The issue, essentially, is whether regulatory commissions should consider accelerated depreciation tax effects, for utilities they regulate who choose to take advantage of it, as a tax deferral, or a tax saving.

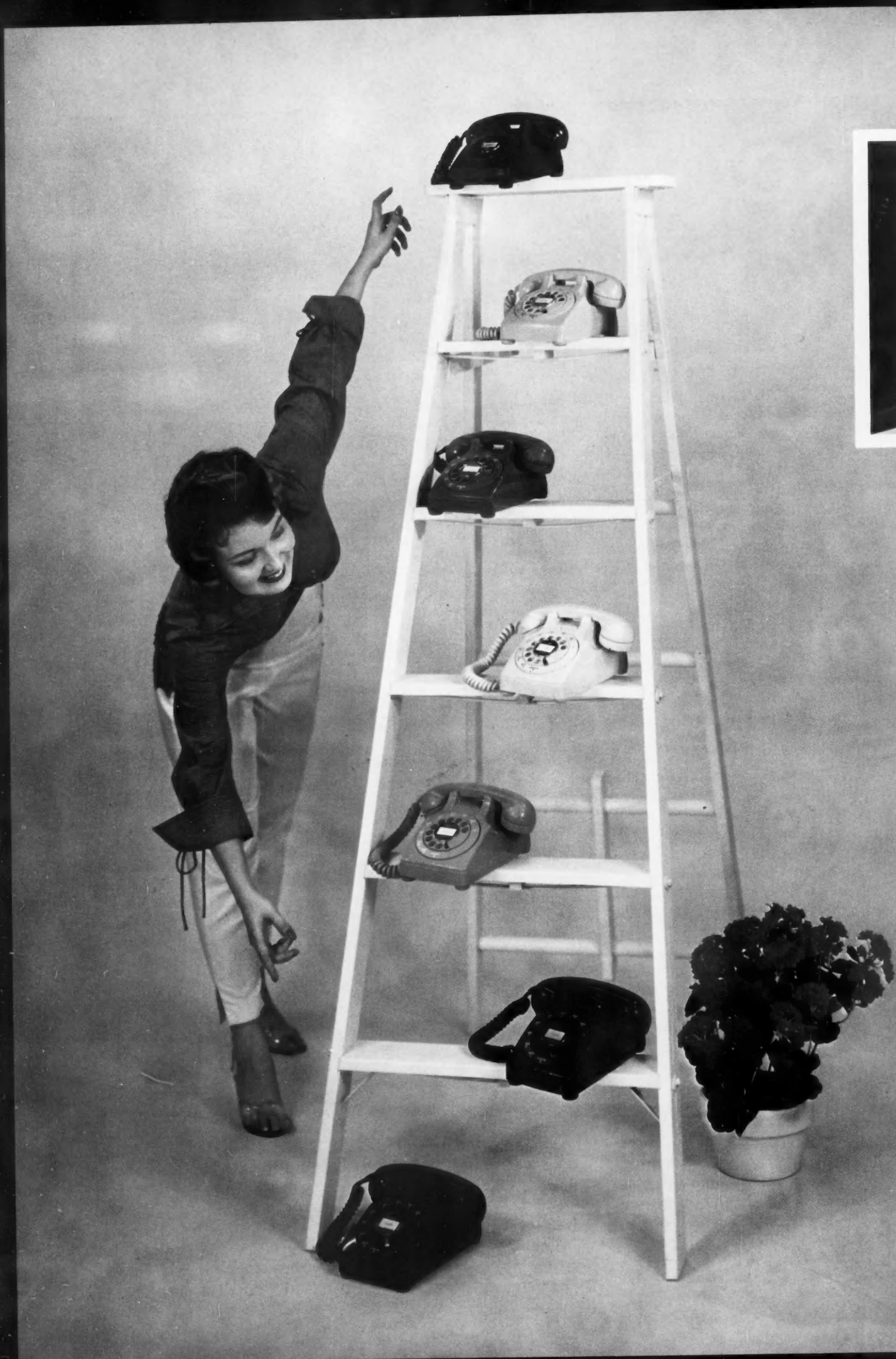
THE SUBJECT HAS RECEIVED considerable attention from the Accounting Committee of the National Association of Railroad & Utilities Commissioners at the last two NARUC conventions, with the committee pointing out that most of the state commissions which have ruled on the matter so far have regarded accelerated depreciation effects as tax deferral, rather than tax saving.

GENERAL TELEPHONE has asked the FCC to recognize the accelerated depreciation method in its uniform system of accounts for class A and B telephone companies. The FCC's action undoubtedly will be watched closely by state commissions seeking further precedents for their own rulings. In its petition, General explained that "use of the methods permitted under the straight line method heretofore employed by (General), but a smaller amount of taxes would be paid during the early part of the life of such property, and a larger amount during the latter part . . ."

TRADING EXCHANGES

ANOTHER MATTER before the FCC of some interest to the Independent branch of the telephone industry,

(Concluded on page 20)



NORTH *Color-tone*

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In NORTH COLOR-TONE Telephones you have the finest standard telephone instrument available to any Telephone Company. Colors are fresh and modern. Reception and transmission qualities are unsurpassed.

AND the COLOR-TONE Merchandising Plan gives you a planned, tested program to promote extension telephone installations in COLOR-TONES.

Colorful mailing pieces and displays—hard-hitting newspaper ad mats—a complete publicity campaign—and a "Blueprint for Sales," showing you exactly HOW and WHEN to use each merchandising aid, step by step, to achieve maximum impact, full area coverage, and how to get revenue increasing RESULTS.

COLOR-TONE Telephones and the COLOR-TONE merchandising program are available from NORTH ELECTRIC COMPANY.

NORTH ELECTRIC COMPANY

GALION, OHIO

Washington NEWSLETTER

(Conluded From Page 17)

as well as the Bell System, is a case involving the proposed "trade" of exchanges between the Southwestern Bell Telephone Co. and the Southwestern States Telephone Co. The transaction calls for acquisition by Southwestern Bell of 18 exchanges of Southwestern States in Texas and Oklahoma, while Southwestern States would get 12 Texas exchanges of the United Telephone Co., Southwestern Bell subsidiary, in Texas.

WHEN THE PART of the transaction requiring FCC sanction — Southwestern Bell's acquisition of the Independent's properties — came up for hearing at the Commission, the Communications Workers of America intervened in opposition. CWA represents employes of both companies, and declared that the Southwestern States employes who decide to transfer to the Bell company would be adversely affected because they would not get credit, for seniority and benefit purposes, for their time spent with Southwestern States.

IN AN INITIAL DECISION, which will be protested by CWA and thus must go to the full FCC for final ruling, FCC Examiner Jay A. Kyle has concluded that it is "wholly speculative" what effect the proposed transaction would have on each of the 38 affected employes, and his ruling looks toward grant of the Southwestern Bell application by the FCC. Mr. Kyle pointed out that those Southwestern States employes who are hired by the Bell company would get credit for their experience for wage purposes, and that they would receive higher wages if they are employed in similar assignments by Southwestern Bell.

TRANSATLANTIC CABLE

GROWING REQUIREMENTS of the nation for all forms of communications services apparently are being borne out again in the latest milestone of telephone progress, the transatlantic telephone cable. Informal comments by observers that the facilities in the new cable will be used to capacity a lot sooner than traffic estimates indicate were buttressed by the experience with the cable the first full day it was open for business.

ALL UNITED STATES-UNITED KINGDOM calls on the first full day of commercial operation were handled over the 23 circuits in the cable available for such traffic. (Of the 36, six are for Canada-UK traffic, and seven are available for switching at London for calls to eight European continent nations.) The first full day showed 588 completed US-UK calls handled over the cable, or 75% more than the average of the 10 previous business days before the cable. To the European continent points, the limited availability of cable circuits meant that much of the traffic was still handled over radiotelephone circuits. Nonetheless, calls to all eight nations, taken in total, amounted to 28% more than the average of the 10 business days immediately before the cable was opened.

ACQUISITIONS

RETURNING TO ACQUISITION cases for a moment, the FCC has received at least two comments which call for additional notification when a telephone company subject to FCC regulation comes in with an application for approval of its purchase of facilities of another telephone company.

THE COMMISSION ISSUED proposed rules of procedure in line with a law passed by Congress this year, ruling out the former provision that hearings on telephone acquisition applications were mandatory. Now, the FCC must hold a hearing only if a request for one is made by a telephone company or association, state commission, or local governmental authority, although it may hold sessions at its descretion on any application.

UNDER THE LAW and the proposed rules, the FCC is required to notify the governors and regulatory commissions of affected states about acquisition applications, and the company involved must post notices at the exchanges and either run two newspaper advertisements or write letters to subscribers. These notification provisions are inadequnate, the Texas Telephone Association and the Communications Workers of America said in their comments.

TEXAS ASSOCIATION PRESIDENT Don Hunsaker said provisions should be made for FCC notification in writing to telephone associations. He said that absence of such a provision "leaves the discovery of pendency of such an application almost to a matter of chance," particularly in Texas, where there is no state commission.

CWA PRESIDENT JOSEPH A. BIERNE commented that "It should not be necessary for the duly recognized collective bargaining representative of the employes in question to depend upon the good fortune of happening to see the notice posted, published, or circulated in the various ways enumerated in the Commission's proposed rules."—*By the editors of "Telecommunications Reports"*

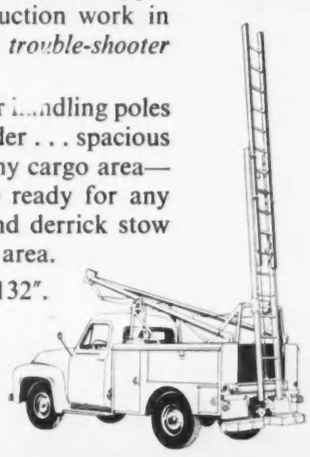
UTILITIES EXPECT MORE FROM - POWERS American

Series 350
SERVICE-MAINTENANCE BODY
HANDLES 3 JOBS

This extremely versatile body will handle all types of service, maintenance, and construction work in small operations . . . and is an ideal *trouble-shooter* for larger utilites.

An easily-erected fold-over derrick for handling poles up to 35′ . . . a 24′ extension ladder . . . spacious bin-equipped compartments . . . roomy cargo area—all combine to make the Series 350 ready for any job at a moment's notice. Ladder and derrick stow above body . . . never obstruct cargo area.

In four lengths—84″, 90″, 104″, and 132″.



Get complete details and price information. Send for Powers-American Series 350 Bulletin #109R or Series 450 Bulletin #118 *today*.

Series 450
MAINTENANCE AND CONSTRUCTION BODY

Another unique design, ideal for municipalities!

DUAL PERFORMANCE . . .

- Revolving aerial ladder for overhead work—revolves 360°—furnished in a height best suited to your needs.
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The Series 450 is available in 108″ and 132″ length.

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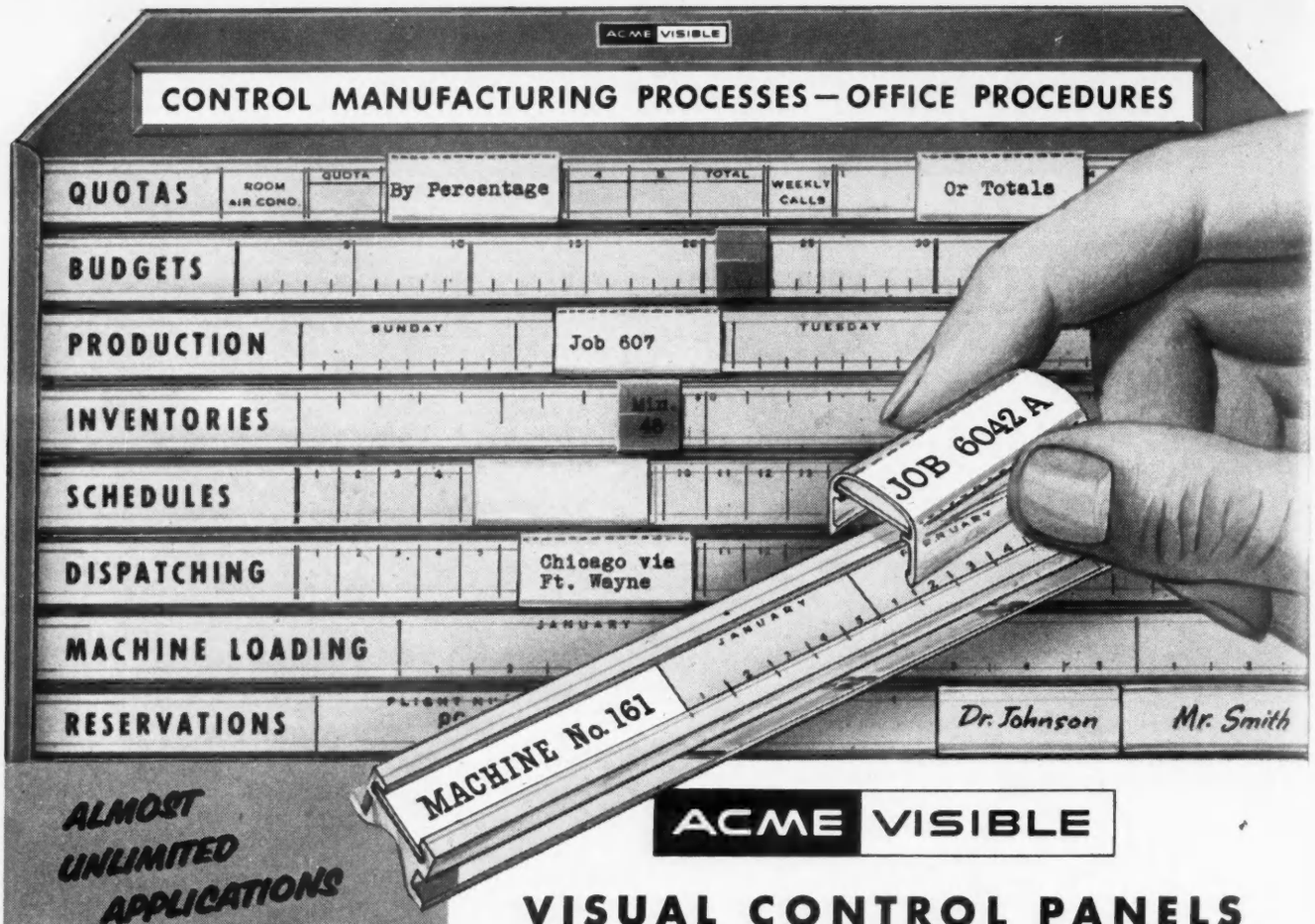


ACME VISIBLE

VISUAL CONTROL PANELS

Chart Action, Indicate Trends, Show Results, Permit Comparison, Picture Organized Facts for Analysis and Decision.

Complete flexibility with limitless signalling and charting possibilities . . . Easily adapted to your individual record requirements.

Lightweight panels contain clear plastic tubes which are individually removable and may be shifted from one position to another . . . Clarity of tube provides full legibility of contents.

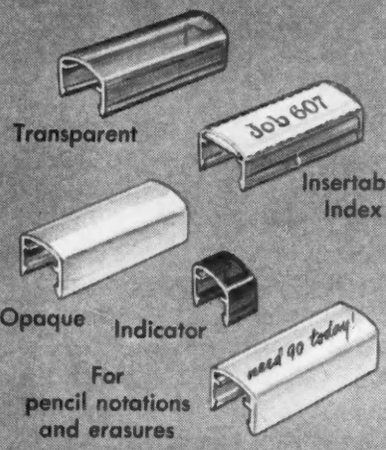
Signals snap on or off at any point . . . Hold position until positively moved . . . Slide smoothly back and forth . . . By-pass freely.

Insertable index feature afford triple signalling potential: by position, by color and by legend of index.

Ask the man from Acme to show you examples—

ALMOST UNLIMITED APPLICATIONS

OVER-RIDING SIGNALS



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Panels Contain 25, 50 or 100 Tubes Available in 17, 30, and 40 inch widths

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☐ Send us more information on Visual Control Panels. *S1056*

☐ We are interested in Acme Visible equipment for _____ records.
KIND OF RECORD

☐ Have representative call. Date _____ Time _____

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NEOPRENE-JACKETED

DROP WIRE

- Standard of the industry for outstanding performance and durability! Alphaduct neoprene-jacketed drop wire is backed up by unsurpassable experience in manufacture and service.
- Dense, tough neoprene jacket resists aging, abrasion, sunlight, oil and water through many extra years of service life. Manufacturing date permanently printed on every length *proves* its long-lasting durability. Dumbbell shape splits perfectly with ease. Ridges on one wire assure simple, certain polarity identification.
- Available in No. 18 Copperweld conductor. Also available in sizes 17 and 18 Awg twisted-pair and parallel constructions.

Rugged carton protects Alphaduct drop wire in shipping and storage, makes handling easier and safer.

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THE LINDSAY TELEPHONE SUPPLY CO., CLEVELAND, OHIO

ALPHADUCT WIRE and CABLE COMPANY
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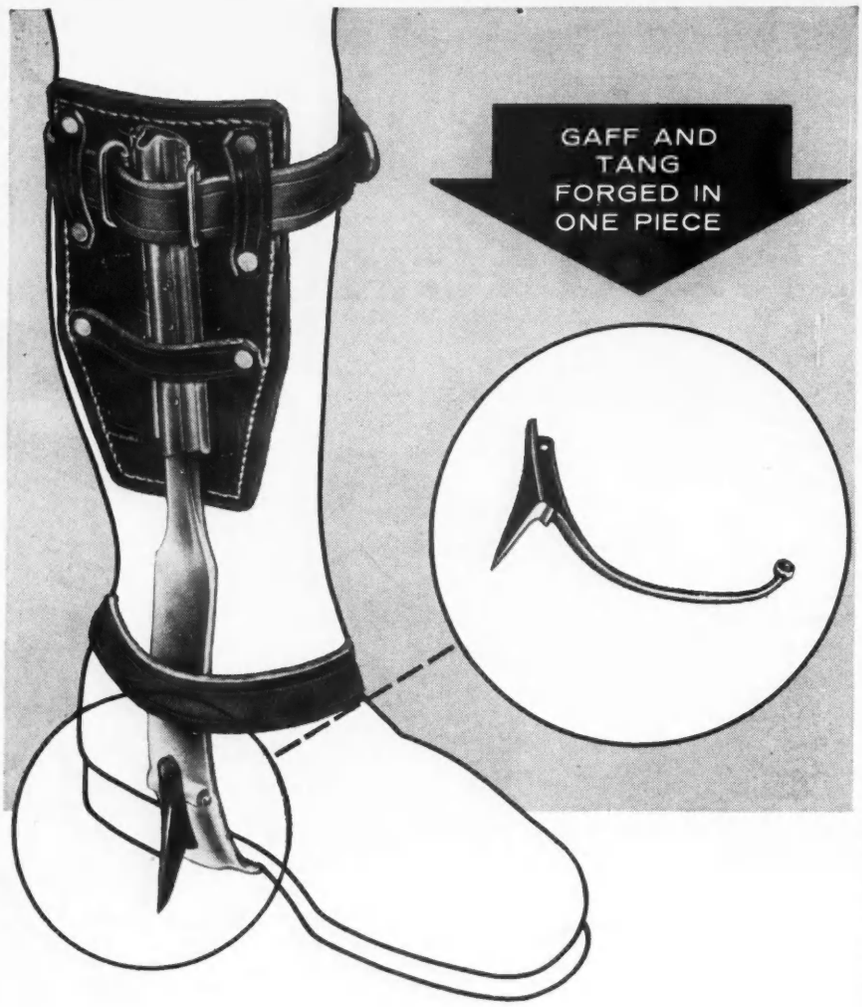

Here's why M-S-A–Brooks Adjustable Climbers provide greater safety—durability

Gaff and tang forged in one piece! That's a statement that makes plenty of safety-sense to workers who depend on a small "tooth" of steel to support their weight high above the ground. This feature is exclusive with the M-S-A–Brooks Adjustable Climbers. And there's more to the story. The gaffs and leg irons are forged from high quality, medium carbon steel, heat treated to assure the proper balance of hardness, toughness and ductility.

Inspection plays an important role, too. Every leg iron and gaff is examined by the magnetic particles method. Statistical sampling is used for impact, absorption, Rockwell hardness and metallurgical tests. And all this means greater safety, longer wearing qualities . . . less maintenance.

Pads and straps are made of top grain steer hide with chrome leather reinforcement on the leg side of the calf pad. The result—maximum comfort on the job.

Write for complete details.

M-S-A
SAFETY EQUIPMENT HEADQUARTERS

Call the M-S-A man on your every safety problem . . . his job is to help you

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MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
Toronto, Montreal, Calgary, Edmonton, Winnipeg, Vancouver, Sydney, N.S. • Representatives in Principal Cities in Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh

coming CONVENTIONS

VIRGINIA–W. VA.:—Roanoke Hotel, Roanoke, Va., Nov. 1 and 2.

S. CAROLINA: — Clemson House, Clemson, Nov. 5-6.

OKLAHOMA: —Huckins Hotel, Oklahoma City, Nov. 7-8.

SO. DAKOTA: — Cataract Hotel, Sioux Falls, Nov. 8-9.

ALA.—MISS.:—Thomas Jefferson Hotel, Birmingham. Nov. 12-13.

GEORGIA: — Bonair Hotel, Augusta, Nov. 15-17.

FLORIDA: — Daytona Plaza Hotel, Daytona Beach, Nov. 19-20.

MINNESOTA: — Radisson Hotel, Minneapolis, Feb. 18-20, 1957.

LOUISIANA:—Captain Shreve Hotel, Shreveport, Feb. 27-28, 1957.

TEXAS: Plaza Hotel, San Antonio, Mar. 11-12, 1957.

IOWA: Hotel Fort Des Moines, Des Moines, Apr. 2-3, 1957.

OHIO: — Deshler Hotel, Columbus, April 16-17, 1957.

WISCONSIN: (Hotel Not Selected), May 15-16, 1957.

ILLINOIS: — Hotel Pere Marquette, Peoria, May 22-23, 1957.

PENNSYLVANIA: — Buck Hill Falls Inn, Buck Hill Falls, June 4-5, 1957.

CALIFORNIA: — Ambassador Hotel, Los Angeles, June 5-6-7, 1957.

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America's telephone companies give our homes and offices the world's finest communications — and the Comptometer helps. You'll find a Comptometer in practically every telephone office, giving quick answers with unfailing accuracy. Comptometer handles the tremendous volume of Toll Ticket Adding comfortably and speeds operations like Payroll, Revenue accounting, Property & Cost, Supply accounting, Voucher & Disbursements, Administrative & Financial reports and other calculating procedures.

Floating Touch gives Comptometer fast figuring and long steady use without fatigue. Its scientific 3-way control constantly checks accuracy. For a demonstration on *your* work, look up the Comptometer representative in the Yellow Pages.

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☐ Please arrange an office demonstration
☐ Please arrange a free office trial

Name_____
Company_____
City_____ Zone___ State_____

California Interstate Names Three to New Positions

CALIFORNIA Interstate Telephone Co., San Bernardino, Calif., recently announced three new appointments. These positions were created by Willard Wade, president, to better meet the responsibilities of the company toward the public in the fast growing desert areas in which the company serves.

Lyal B. Martin was appointed manager of the Victorville exchange, and will be responsible for all the administrative functions in the exchange; reporting directly to C. H. Harling, district manager. Mr. Martin joined Interstate on December 7, 1950 as a warehouseman. He spent from 1950 to April 1952 in various jobs in the Stores Department. He then went to construction clerk, fieldman and in April, 1954 was made a junior accountant reporting to the new general offices of California Interstate in San Bernardino, Calif. In October, 1954 he was promoted to accountant and on March 12, 1956 to plant accountant.

William T. Biggs was appointed manager of the Boron Exchange, and will report directly to R. A. Dinsmore, district manager of Ridgecrest. Mr. Biggs began working for California Interstate in 1948 as a collector. From that time on he progressed steadily, participating in many phases of commercial operations in the district.

William F. Rendell was appointed manager of the Big Bear and Running Springs Exchanges of California Interstate. Mr. Rendell will report to C. H. Harling, district manager of the Southern District. He joined Interstate Telephone in Victorville as an apprentice serviceman in November, 1945. He then advanced to district clerk, and later administrative assistant to the district manager. In November, 1955 he was presented with a ten year service pin.

CUTOVER COMPLETED: — —Dial equipment located on second floor of the new Union Telephone Co., building at Owosso, Mich., "went to work" in August for over 9,000 subscribers. At 1:56 A. M. on Aug. 5 a 40-year old switchboard was silent. Six minutes later the dial cutover was completed.

West Coast Tel. Advances Beck, Scripture & Tompers

TWO EXECUTIVES of the West Coast Telephone Co., Everett, Wash., have been appointed vice presidents, it was announced last month by Ray Dalton, vice president & general manager of the company.

L. Gray Beck, chief engineer, has been advanced to the position of vice president-operations. His responsibilities will cover the company's operations in Washington, Oregon, and California.

Arthur D. Scripture has been appointed vice president and will continue in the position of general commercial superintendent.

Dalton also announced that Daniel J. Tompers, equipment engineer for the company, will assume the position of chief engineer vacated by Beck.

Beck's rise to the vice presidency occurs after more than 20 years of service with the West Coast Telephone Co. From 1940 to 1945, he served in the United States Army and was discharged as a Lieutenant Colonel. He is a native of Washington and is the son of Dr. and Mrs. L. G. Beck, of Everett. He was employed by the company in 1934 after graduating from the University of Washington. Beck has held various positions with the company, including that of Everett district manager, assistant general manager, and chief engineer.

Scripture entered the company's service in 1947, coming from San Fernando, Calif., where he was district manager for the California Water & Telephone Co. Prior to his

"Pressure-creosoted telephone poles mean an actual budget reduction!"

Mr. Travis with one of the 98,362 pressure-creosoted poles now giving such good service on the lines of the United Telephone Company of Iowa.

reports
United Telephone Company of Iowa, Newton, Iowa

"Our telephone system is 81.8% pressure-creosoted," reports Mr. Lawrence E. Travis, Vice President and General Manager, "and within 10 years will be 100% creosoted. Because of the excellent characteristics of the pressure-creosoted poles, we have even changed our original estimate of 35 years to a longevity span of 40 for the poles, and we have been able to reduce our budget for 1956.

"The following table shows the value we place on our pressure-creosoted poles: From 1951 to 1955 we spent—

1951	$109,291	for pressure-creosoted poles
1952	99,643	
1953	98,466	
1954	106,962	
1955	105,213	
1956	73,326	

"The main reason for the reduction lies in the longevity of the pressure-creosoted poles. We can afford to taper off due to this life span, and the poles we buy from now on will be primarily for system extension and change-over to heavy class pole."

Heavy wire loads, high winds, ice burden, severe ground strain and stress, freezing winter cold and boiling summer heat have no effect on the pressure-creosoted poles of the United Telephone Company of Iowa. Mr. Travis continues, "We find the pressure-creosoted poles 100% neutral to weather, bugs and water. We used to core test every two years but have discontinued the practice because of the uniformity of performance of the poles. The poles, even those in the ground since 1936, are as good as they were then . . . and the butt ends are in excellent shape."

If you would like more information on pressure-creosoted utility poles, and the way they can enable you to save money and establish better service for your utility, just get in touch with the nearest Chemical Sales office of United States Steel or write to United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pa.

USS CREOSOTE

SALES OFFICES IN PITTSBURGH, NEW YORK, CHICAGO, CLEVELAND, SALT LAKE CITY AND FAIRFIELD, ALA.

USS

UNITED STATES STEEL

toll calls
TIMED TO THE SECOND
Automatically

This is the ultimate in modern, dependable and accurate computing of all toll calls TIMED TO THE SECOND. And what's more it's all done *automatically*—no need for operators to do it manually.

Just a flick of a lever, and Calculagraph computes, prints and records ELAPSED time of toll calls, thus eliminating human errors and allowing every operator to handle more calls—and more calls mean more dollars to you.

For time-saving operation, for dependable accuracy, for greater toll-call volume, install Calculagraphs on your switchboard. Investigate this model 33 shown here (others available according to need) and see for yourself what CALCULAGRAPH can do for you.
***Don't delay, write today* for catalog to Dept. TM**

931

Photograph courtesy Lincoln (Neb.) Telephone and Telegraph Co. and Automatic Electric Sales Corp.

CALCULAGRAPH *Company*

HARRISON, N.J.

THE STANDARD OF ACCURACY SINCE 1892

service with the California Water & Telephone Co., he served in the commercial department of the Southwestern States Telephone Co. Brownwood, Texas, from 1934 to 1940. After a brief period as assistant Everett district manager, he was transferred to Forest Grove, Ore., as district manager of the Forest Grove district. He returned to Everett in 1953 as general commercial superintendent.

Tompers entered the service of the company in La Grande, Ore., in 1936. He has served in various capacities with the company. In 1948, he was appointed assistant equipment engineer, and in 1951, he was promoted to the position of equipment engineer.

"These advancements are occasioned by the phenomenal and consistent growth of our company," said Dalton. "In the past five years, the plant and equipment in service has increased from $15,000,000 to $40,000,000, and the number of telephones served has grown from 79,000 to 138,000. At the end of 1951, there were 1,250 employes; today, the number exceeds 1,700. We will continue to grow with the increase in population in the areas served, and this, in turn, will continue to place greater responsibilities on the key men of the organization."

Cato, N. Y. Company Closes Mortgage Loan With Berkshire

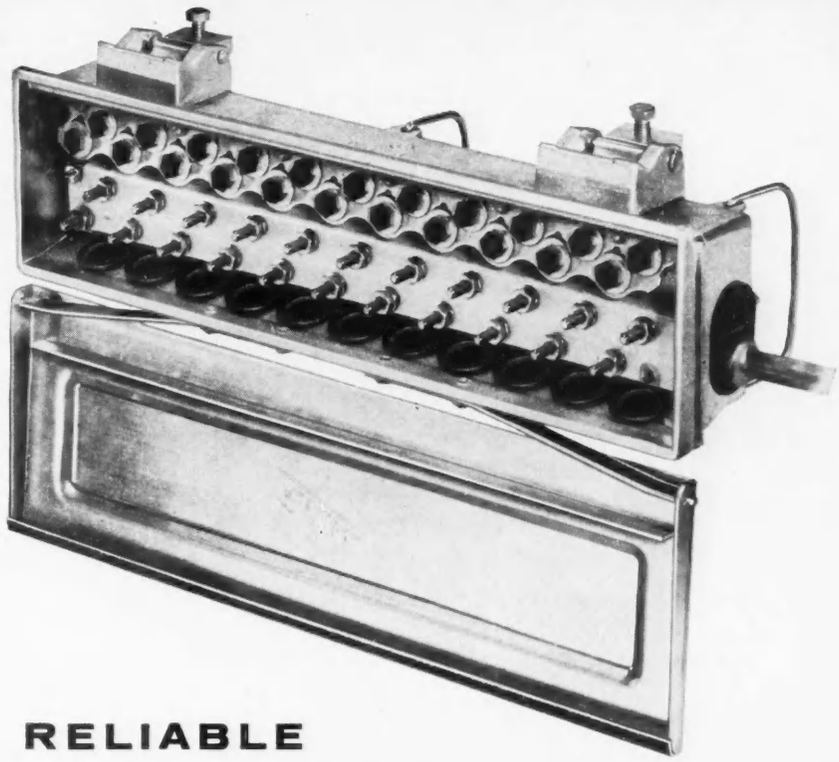
CATO & MERIDIAN TELEPHONE CO., Cato, N. Y., has closed a $125,000 Twenty-five Year First Mortgage loan with Berkshire Life Insurance Co., Pittsfield, Mass. Proceeds of the loan are being used for funding notes payable and for capital expenditures in connection with construction. This is Berkshire's second loan to Cato & Meridian and its 47th piece of Independent telephone company financing.

New York Independent Purchases Bell Exchange

THE NEW YORK Public Service Commission has authorized the Highland Telephone Co. to purchase the Goshen exchange of New York Telephone Co., for approximately $205,000.

Acting on the joint petitions of the two companies for authority to complete the transaction, the Commission said:

"The transfer appears to be in the public interest and should be approved. The condition of the records



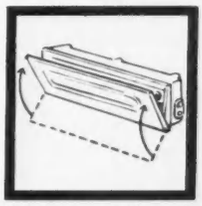
RELIABLE
STRAND MOUNTED TERMINALS

Whether the plant employs protected or unprotected type cable terminals the design and dependability of the Reliable Strand Mounted Terminal upholds a forty-eight year old reputation for thorough engineering and thoughtful design.

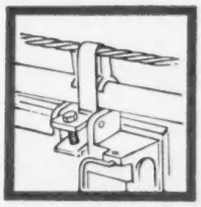
For example: The silicon bronze binding posts on which the cable stub wires are terminated are sealed, with the wires, in a glass-reinforced, polyester resin—a material with exceptionally high dielectric qualities. To minimize, if not actually eliminate surface leakage, binding posts are generously spaced ($1^1/_{16}$″).

Where protection for either the cable or the station is desired the new Reliable Fuseless Protector Unit will dissipate static discharges across the elements to ground. With repeated heavy discharges, with fault currents or with power surges, carbons are shunted as the attendant heating permanently closes a metallic circuit to ground. Illustrated information will be mailed on request.

Protector unit—No. 506 for cable, No. 504 for station.



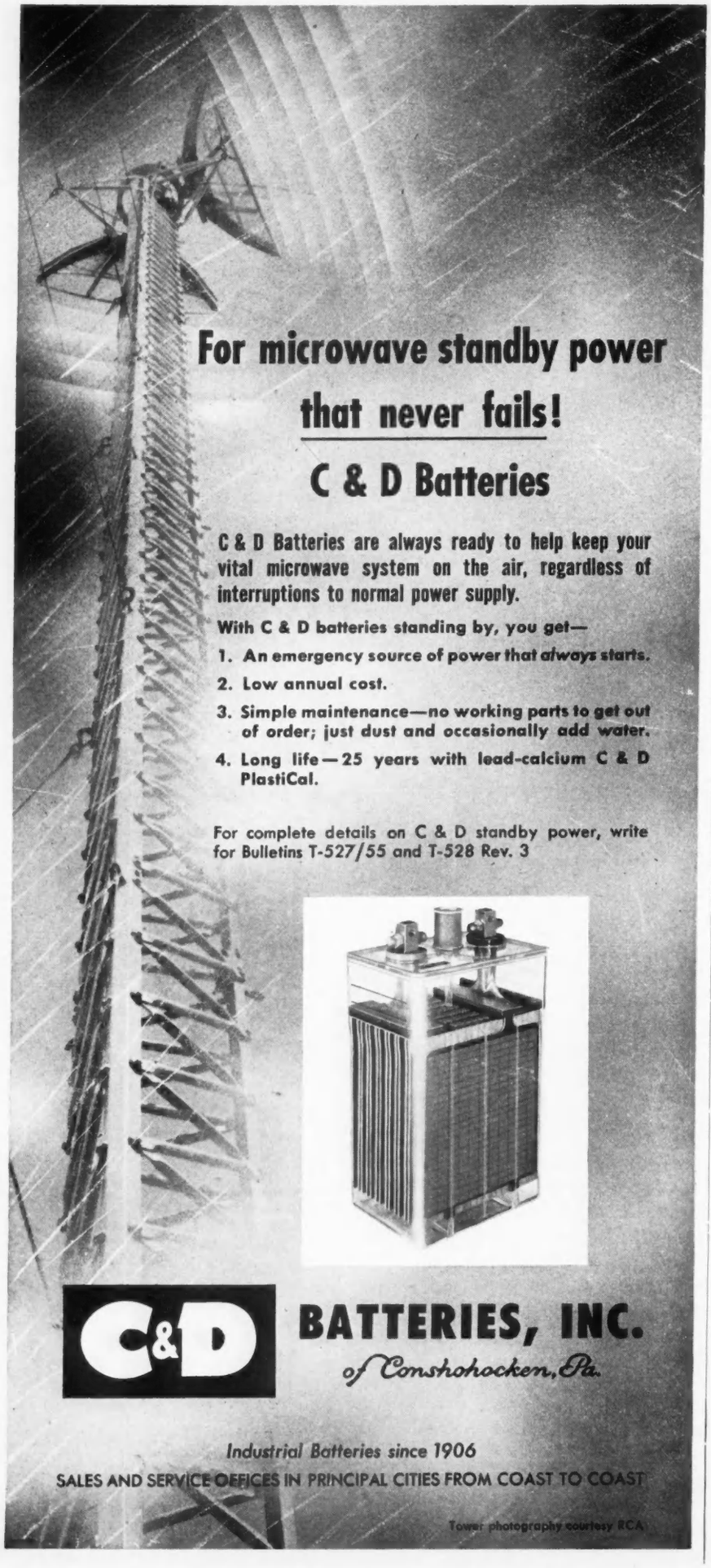
Patented cover latches and unlatches easily.



Single screw clamps tighten and lock mounting strap

Reliable

RELIABLE ELECTRIC COMPANY CHICAGO


For microwave standby power
that never fails!
C & D Batteries
C & D Batteries are always ready to help keep your vital microwave system on the air, regardless of interruptions to normal power supply.
With C & D batteries standing by, you get—
1. An emergency source of power that always starts.
2. Low annual cost.
3. Simple maintenance—no working parts to get out of order; just dust and occasionally add water.
4. Long life—25 years with lead-calcium C & D PlastiCal.
For complete details on C & D standby power, write for Bulletins T-527/55 and T-528 Rev. 3
C&D
BATTERIES, INC.
of Conshohocken, Pa.
Industrial Batteries since 1906
SALES AND SERVICE OFFICES IN PRINCIPAL CITIES FROM COAST TO COAST
Tower photography courtesy RCA

of the New York Telephone Company makes it impossible to determine with exactness the original cost and existing depreciation in the property to be transferred. The proposed purchase price, however, is within the realm of reason and was reached at arms-length bargaining in an effort to transfer the property at original cost less accrued depreciation."

The Goshen exchange serves slightly more than 2,100 telephones through a manual switchboard. Highland Telephone plans to continue operation of the Goshen exchange, using existing facilities and personnel until March 1958 when conversion to dial operation is contemplated. It also plans to include its Chester exchange in the Goshen local calling area after conversion.

Highland Telephone now serves about 7,300 stations in 20 Orange County communities through exchanges in Monroe, Highland Mills, Chester, Washingtonville and Maybrook.

Chase Manhattan Names Ekblom To New Position

HARRY E. EKBLOM has been appointed an assistant treasurer in the public utilities department of The Chase Manhattan Bank, New York City.

Mr. Ekblom joined the bank as a member of the training program in 1950. He has been in the public utilities department since 1953. A native of Brooklyn, N. Y., he received his B. A. degree from Columbia in 1948 and his LL.B. from New York University Law School this year.

General Telephone Purchases Seacoast Telephone Co.

GENERAL TELEPHONE CORP. has purchased the Seacoast Telephone Co., Myrtle Beach, S. C, according to an announcement made by General's President, Donald C. Power.

The Seacoast Telephone has about 6,000 telephones in service, located in 15 communities in an area which extends about 75 miles along the Atlantic coastline in the northeastern section of South Carolina. Principal exchanges served in addition to Myrtle Beach include Georgetown and Ocean Drive Beach. All of the telephones in service are dial operated.

Myrtle Beach, is the center of a rapidly growing resort area. In addition, the Myrtle Beach Air Force Base is being reactivated, requiring mili-

INDEPENDENT TELEPHONES HELP YOU REACH ALL AMERICA

Everybody wins. Better men, richer farms, stronger nations grow out of competition like this. It's the same enterprising spirit that has given today's farm family a standard of living unmatched anywhere. Part of this better life is up-to-the-minute telephone service for more and more of America's farms. 4,700 Independent telephone companies help tie America together with service to *two-thirds of the entire area of the nation.*

INDEPENDENT

INDEPENDENT TELEPHONE COMPANIES of America

United States Independent Telephone Association
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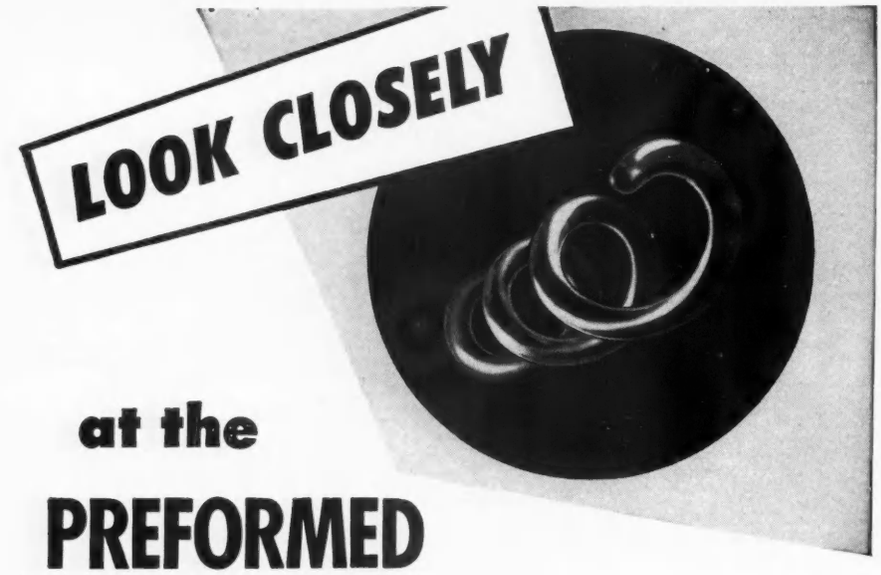

LOOK CLOSELY

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PREFORMED

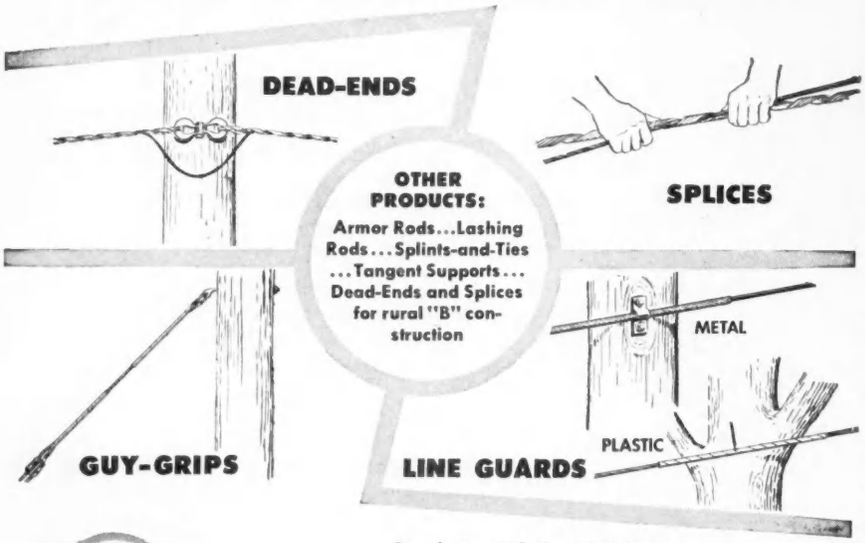
PRINCIPLE

a major advance in line accessory fittings

The Preformed method of producing line accessories is an exclusive new development for the telephone industry. It incorporates the use of Preformed Rods—helically formed within exacting tolerances—to serve varied "fitting" functions all along the line. No more bolts—no compression tools—simplified construction. More than just something new, Preformed Products represent a better, faster and more economical way to *dead-end, splice, support,* or *protect* conductors and strands.

For more information on their exclusive advantages, consult your telephone distributor.

A COMPLETE LINE FOR THE TELEPHONE INDUSTRY...



Consult Your Telephone Distributor

Made in accordance with or for use under one or more of the following U. S. Patents: 2,275,019; 2,587, 521; 2,609,653; 2,691,865; other patents pending.

PLP

PREFORMED LINE PRODUCTS COMPANY

5349 St. Clair Avenue • Cleveland 3, Ohio

tary personnel totaling about 5,000 to operate one wing, with the possibility that this number may be doubled in the near future.

In commenting upon the merger, Mr. Power pointed out that the Seacoast property will be managed from General's divisional headquarters at Sumter, S. C. Main headquarters for General Telephone properties in the southeastern part of the United States are located at Durham, N. C.

West Coast Tel. Advances Three To New Positions

SEVERAL NEW promotions in the West Coast Telephone Company's general office have been announced by Ray Dalton, vice president and general manager of the company.

Leo McGuire has been named general equipment engineer, succeeding Daniel Tompers, who was recently appointed chief engineer. McGuire has been with the company since 1950 and has been general traffic engineer since February, 1956.

John W. Mallory, senior commercial engineer, succeeds McGuire as general traffic engineer. Robert

Please turn to page 34

WHEN OUTDOOR public telephone service was inaugurated in Elyria, Ohio, by The Elyria Telephone Co. recently, the event was considered more or less of a civic one. MAYOR J. GRANT KEYS (left) made the first call after which radio station W E O L, Elyria, carried a five minute news feature on which the Mayor and WELDON W. CASE (right) vice president and general manager of the company, were interviewed. The mayor praised the telephone company for its progressiveness and its awareness of the needs of the city, which is one of the fastest growing in Ohio. The first outdoor booth is located in the heart of the business district. There will be outdoor booths at 15 other locations.

Copperweld Line Wire

TRADE MARK

stays on the job!

Even when the weather is at its worst, you can depend on non-rusting Copperweld* Line Wire to give "service as usual" —safe, sure, uninterrupted. Its ability to stand up under the most severe operating conditions, year after year, is a matter of record. The test of time has proved its permanent high strength and its long service life at lowest annual cost. And, because of its excellent conductivity, Copperweld is the only long-span conductor suitable for all types of circuits—voice, signal and carrier.

Your request for engineering data will receive prompt attention.

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COPPERWELD STEEL COMPANY

WIRE AND CABLE DIVISION *Glassport, Pa.*

For Export: COPPERWELD STEEL INTERNATIONAL COMPANY, New York

SOLD BY LEADING DISTRIBUTORS

Even rocks won't stop this Tel·E·Lect digger!

- **Time Tested, Proven, Accepted**
- **Used by Public Utilities Everywhere**
- **Operates on Any Derrick Truck**
- **Nationwide Sales-Service Facilities**

Rugged construction from hardened steel auger to power take-off lets this time-tested Tel-E-Lect Pole Hole Digger work in all soil conditions . . . smart design lets Tel-E-Lect's digger reach up on hills, down into ditches, or across obstacles—anywhere up to 20 feet behind the truck!

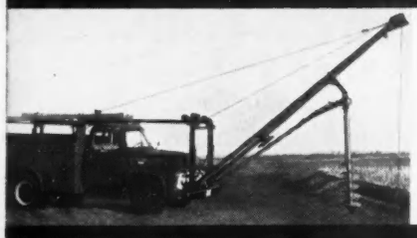
Put this low cost, industry accepted unit on the front or rear of your utility truck . . . see your two-man crew dig a hole and set a pole in less than five minutes. The Tel-E-Lect digger will bore clean holes 10 feet deep. Interchangeable augers 8" to 20" in diameter are offered.

The digger is lifted by truck's boom and winch. Engine power is delivered to the digger through a telescoping drive shaft and the auger can be rotated in either direction by shifting the PTO.

All Tel-E-Lect products are sold and serviced through a nationwide distributorship plan. You'll find your local dealer listed under "Trucks-Equipment" in the yellow pages, or *write direct for complete information.*

This 2-man utility truck is completely equipped by Tel-E-Lect. Its derrick and digger are stowed overhead for travel.

Once on the job, the derrick and digger are raised automatically with the winch . . . no need for a big crew with this compact unit.



In two minutes the Tel-E-Lect derrick and digger are in position, ready to work. Note that the pole is used as additional weight to force the auger into the frozen ground.

Tel·E·Lect PRODUCTS, INC.

10,013 Minnetonka Boulevard Minneapolis 16, Minnesota

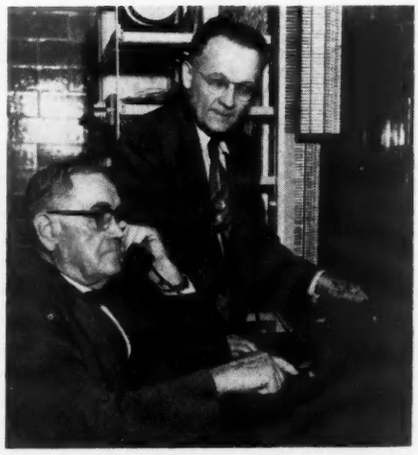
Myres, equipment installation supervisor, becomes general equipment maintenance supervisor.

These appointments, Dalton indicated, are in line with recent major changes in the company's staff personnel, designed to meet the increasing challenge of very rapid growth throughout the entire areas served by the company in Washington, Oregon and California.

General of S. W. Boosts Rates In Five Texas Exchanges

THE FOLLOWING rate increases were granted General Telephone Co. of the Southwest during August, 1956:

Exchange		Old Rate	New Rate
Effective August 5, 1956			
Willis, Texas	Bus.-1-Pty.	$6.50	$12.00
(Conversion to Dial)	-2-Pty.	5.00	10.00
324 Stations	Res.-1-Pty.	3.50	5.75
	-2-Pty.	3.00	4.75
	-4-Pty.		4.00
Effective September 1, 1956			
Denver City, Texas	Bus.-1-Pty	6.25	7.25
Common Battery	-2-Pty.	5.00	6.00
1034 Stations	Res.-1-Pty.	3.50	3.75
	-2-Pty.	3.00	3.25
Effective September 16, 1956			
Taft, Texas	Bus.-1-Pty.	7.00	7.50
Common Battery	-2-Pty.	5.50	7.00
1124 Stations	Res.-1-Pty.	4.00	4.50
	-2-Pty.	3.25	3.50
Effective September 11, 1956			
Dalhart, Texas	Bus.-1-Pty.	7.50	8.25
1939 Stations	-2-Pty.	6.25	7.00
	Res.-1-Pty.	4.75	5.00
	-2-Pty.	4.10	4.35
	-4-Pty.	3.50	3.75
Effective August 6, 1956			
Crosby, Texas	Bus.-1-Pty.	9.00	10.50
359 Stations	-2-Pty.	7.50	8.50
	Res.-1-Pty.	4.75	5.50
	-2-Pty.	4.00	4.50



FIRST CALL:—Veteran Independent JOHN K. STOLTZFUS, pres., Conestoga Tel. & Tel. Co., Birdsboro, Pa., makes first call over new dial equipment at Topton exchange. The interested observer is CHARLES S. RHOADS, vice pres. & gen. mgr. of the Conestoga company

J. S. Elliott Elected Lincoln T & T Director

J. STEWART ELLIOTT, Beatrice, Neb., was elected a director of The Lincoln (Neb.) Telephone & Telegraph Co., at a recent meeting of the company's board of directors.

Elliott, now retired, was formerly secretary and director of the Kilpatrick Brothers Co. of Beatrice. He is a director of the Beatrice National Bank and the Dempster Mill Manufacturing Co. of Beatrice and a member of the executive committee of the University of Nebraska Foundation.

Active in civic and fraternal organizations, Elliott is president of the Library Board at Beatrice, a charter member and past president of the Beatrice Rotary Club, past president of the Y.M.C.A., and a member of the chamber of commerce. He is a Senior Warden of the Christ Episcopal church, a former trustee of the Masonic lodge, president of the Innocents Alumni Association of the University of Nebraska, a member of the University Club and the Newcomen Club.

REA Telephone Borrowers Meet at Portland, Ore.

LAST MONTH the Western Association of REA Borrowers held its semi-annual meeting at the Imperial Hotel in Portland, Oregon with five states represented and with approximately 100 in attendance from various telephone companies, engineering firms and suppliers.

The Association was organized in 1954 for the purpose of promoting the general welfare of its members and the telephone industry membership was limited to companies, associations, mutuals, cooperatives and corporations directly engaged in or about to engage in the telephone business and who are bonafide borrowers from the Rural Electrification Administration.

The officers of the association are Glenn J. Stover, Mount Vernon, Wash., president; James Damon, Mount Vernon, Ore., secretary-treasurer, Richard Crowe, Dos Palos, Calif., vice president, and Milton Larson, Lynden, Wash., Henry Mumaw, Aberdeen, Wash., Rodney Cummings, Philomath, Ore., C. J. Lickleider, Elkton, Ore., Harry Baker, Raymond, Calif., Donald Dickson, Rupert, Idaho, directors.

On September 7, after registration and introductions, the day was spent on subjects of loan applications and accounting problems with Harold Clark, head of Section One and Clark Phillipi of the Operation & Loan Division of the Rural Electrification Administration leading the discussion. Richard Crowe acted as moderator.

On September 8, engineering, new products, plant protection, testing equipment, plant design and plant records were discussed. Chester Gibbs of Colfax, Calif., acted as moderator for the morning session and Henry Mumaw handled the afternoon session. Don Housley, section engineer, James Eppes, Ray Ballard and Wm. Stokesberry of REA engineering section led the discussions.

The spring meeting is scheduled for March 21 and 22, 1957 at Portland, Ore.

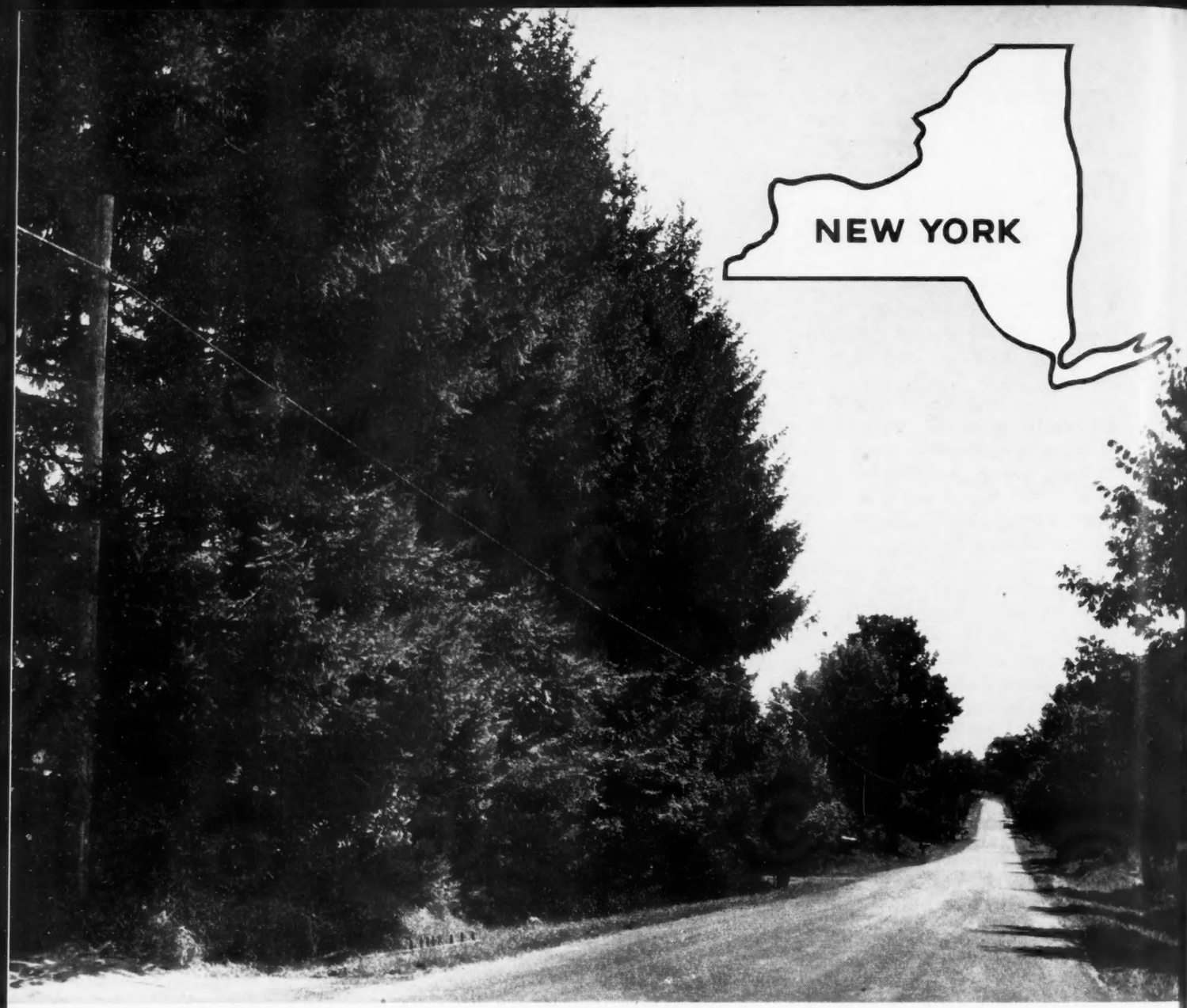
SHIRLEY J. KINNEY, Susanville, Calif., receiving the third of the Citizens Utilities Company — Joseph C. Briggs Memorial Scholarship awards in the amount of $500. Presentation was made by D. H. STEELE, manager of Citizens' California telephone operations. Shirley's father, Reuben Kinney, is a warehouseman for telephone operations in the Susanville area. The award is the third in an annual program recently established by Citizens Utilities Co. as part of a program of financial assistance to high school graduates desiring to pursue education at higher levels. The Schalorship award culminates a nationwide competition among children, grandchildren, brothers and sisters of employes of Citizens Utilities Company. Citizens operates electric, gas, water and telephone properties serving more than 200 communities in 7 states: Arizona, California, Colorado, Idaho, Illinois, Maine and Vermont.

Southwestern States Tel. Co. Reports Four Conversions

CONVERSION to the dial system has been effected in four exchanges of The Southwestern States Telephone Co. recently, D. T. Strickland, vice-president and general manager for the company has announced. At least six more exchanges are scheduled for conversion during the remainder of 1956, Mr. Strickland said.

Granger, in the company's South Texas Division, was cut over on July 20, with Mrs. Frank Kurtin and Miss Theresa Mulholland, daughters of Granger's Mayor R. C. Mulholland, "throwing the switches" for the conversion. The 300-line, 500-terminal dial unit, placed in operation in a new building constructed by the company, gave the area the most modern in telephone service, replacing the old magneto system.

July 31 was the cut-over date for the system at Hollis, Oklahoma, in the company's Western Oklahoma Division. R. F. Dudley, editor of the *Hollis Weekly News*, threw the switch cutting in the new 600-line, 1,200-terminal dial system which is housed in a new brick building constructed earlier this year. The equipment replaces a common battery system.



Compact Polyethylene-Covered Cable

reduces poles, crossarms, tree trimming

Increasing the number of telephones in rural New York areas has until recently meant an increase in open wire lines, requiring more crossarms and higher maintenance costs due to tree trimming.

Recent installations of polyethylene-insulated cable here have shown that it can often be strung on existing poles without adding crossarms. In the construction of new lines, ⅓ fewer poles have been found practical. In addition, no lightning damage has been reported on rural distribution wire and cable insulated with polyethylene, despite an unusual number of thunderstorms during the year.

Many other advantages of BAKELITE Brand Polyethylene and Vinyl Plastics as wire covering have been demonstrated in other fields. Singly and in combination, these materials have shown outstanding dependability when used for signal control cable, utility line wire and service drop, power cable, and coaxial cable. These materials meet REA requirements for plastic-covered telephone wire. Also, IMSA specifications for fire alarm and signal control cable; ASA standards for weatherproof wire; and ASTM D1238-52T Type II, dielectric materials.

The latest information on the performance of these plastics in wire covering applications is reported in Bakelite Company technical publications. Much of this material is of direct interest to the telephone industry, and is available without cost by writing Dept. UW-183

BAKELITE
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Management NEWSLETTER

- **"Fortune" Looks at Labor Leadership.**
- **A Management Responsibility.**
- **Preparing a Procedures Manual.**

LABOR LEADERSHIP

THE MEN WHO WILL LEAD labor tomorrow are pretty much the ones who are leading labor today, Daniel Bell, associate editor, *Fortune*, has predicted.

The typical large-company top executive is between 50 and 60 years of age, he pointed out. The typical labor leader is 10 years younger. The reason, he explained, is that *the American labor movement is relatively young*, by and large about 21 years old. And, like most social movements and most new enterprises, it was built by young men. Only now are the unions beginning to "shake down" (rationalize) their administrative structures.

Which unions will grow and which decline in the next five to 10 years depends more on trends in technology and in type of employment than union leadership, Mr. Bell suggested. He forecast growth for auto, machinists, electricians, plumbers, structural metal workers, plant operating engineers, petro-chemical, teamster, some white collar, and some retail and wholesale unions, relative decline for coal, textile, shipbuilding, and some building crafts unions.

No spectacular change in *labor's economic demands* is likely, according to Mr. Bell. As unions, their demands are limited. But as a movement, *labor wants political recognition*, he said; they are a power movement and they will assert their power.

Within the union, *leadership is political*, Mr. Bell emphasized. For this reason few labor intellectuals or staff members succeed. Labor leadership is drawn from the radical movement, the urban political machines, and the rough and tumble of industry. As a result, top union leaders are still less educated but tougher than their staffs.

A MANAGEMENT RESPONSIBILITY TO ACCEPT RESPONSIBILITY

MANAGEMENT COLLECTIVELY is in the best position of all groups to make this a better world to live in, and each manager should accept as his job the task of integrating this social responsibility with that of making money for the enterprise, *Saul M. Silverstein*, president, Rogers Corporation, declared recently. Businessmen who emphasize the social responsibilities of industry are often castigated as "do-gooders," he conceded, but "Personally, I see no evil in doing good."

Mr. Silverstein suggested several specific areas in which a *basic change in management attitudes* is needed if improved understanding is to be attained. These include management's attitudes toward unions, government, security, and itself.

"Let's be *realistic about this union situation*," he urged. There have been many abuses in unionism, but "isn't this equally true in the fields of medicine, religion, science, finance, and even in management? Unions are here to stay. If the majority of workers want a union, it is the responsibility of management to accept this decision without mental reservations. If the majority prefers to be without a union, so be it. Too many management people are still dedicating their lives to the destruction of an existing union or are equally dedicated to preventing the formation of one, without regard to the wishes of their workers."

The speaker also urged his audience *not to be afraid of white collar unions*. "Sooner or later most of you will have to live with them whether you like it or not—so relax and enjoy it. At Rogers we have tried an experiment during the past five years which many of my contemporaries predicted would prove disastrous. We actually urged our white collar group to organize and have found that it greatly improved our communications and performance. Both unions now force us to do a better management job."

He also suggested that businessmen stop criticizing the government and accept their share of *responsibility for the community and nation*. "If our governments are not sound or fair, we have only ourselves to blame. Some of the severest critics of government performance are business leaders who are too busy to serve but never too busy to criticize those who are doing their best and need more support. If the individual thinks solely of himself, the state must assume and provide the necessary correctives."

Mr. Silverstein also hit at the "cynical people" who "Have castigated workers at all levels for being too *interested in security* and, correspondingly, less interested in doing a fair day's work for a fair day's pay. Isn't it

COLOR? *sure! and quickly convertible to wall*

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A DIVISION OF GENERAL DYNAMICS CORPORATION

Sales Offices: Atlanta 3, Chicago 6, Kansas City 8, Rochester 3, San Francisco 3.

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all mounting, too...

Two-way mounting means extra income for you because it helps you promote that second 'phone. Subscribers love extensions that harmonize with the color schemes of their homes.

Ours is the *only* line of colored telephones that are quickly convertible to wall mounting . . . an obvious and very welcome *saving on inventory.* They're all the "W" type high-efficiency "1500" Series. You can offer your subscribers a choice of 8 exciting decorator colors.

For sales helps and further details contact your nearest Stromberg-Carlson office.

Management NEWSLETTER

(Concluded From Page 37)

strange that so many of these cynics have done so well for themselves in the area of valuable stock options and reasonably liberal retirement plans?

The speaker *advised management people to stop feeling sorry for themselves.* "It is true that management's responsibilities are great but they get paid accordingly. I have never known of a top management man whose burdens became so great that he swapped places with the worker. All too often those in management who feel most sorry for themselves are down to their third Cadillac and second cruiser. So let's stop kidding ourselves and cut out the double talk. It's still nice to be boss, with all his headaches."

PROCEDURES MANUAL

MAKE HASTE SLOWLY in setting up a company manual of procedures, *A. F. Bortz,* Assistant Secretary, Lord Manufacturing Co., cautioned a recent A M A conference. The success of a procedures manual, Mr. Bortz said, "will be judged in the end by its effectiveness and not by the rapidity with which a large mass, or we might say mess, of writing is turned out in the first flush of enthusiasm in undertaking the project. The old adage that haste makes waste has never had a more pertinent application."

Mr. Bortz cited 14 *advantages of reducing procedures to writing*: (1) Procedures manuals formalize all operations of the company; (2) they facilitate communications; (3) they can be used as training and personal development media; (4) they clarify or establish policies; (5) they insure coordination and eliminate duplication of effort; (6) they mean uniform interpretation of policy; (7) they establish reference sources; (8) they define responsibility and authority; (9) they preserve policies even though personnel change; (10) they strengthen supervision; (11) they insure work simplification; (12) they establish control of forms; (13) they strengthen employe relations; (14) they establish control points for cost analyses.

Two prerequisites are "absolutely necessary" to ensure success in a procedures manual program, according to Mr. Bortz. They are a *policy manual,* or at least a statement of policies, and *an organization manual,* or at least an organization chart.

Responsibility for the procedures manual sometimes is centralized — in a separate administrative department, in the president's staff, or as a function of the office manager or controller — and sometimes is decentralized. Mr. Bortz expressed preference for the former arrangement because more time is likely to be given to the job, coordination is easier and conflicts can be minimized, and all departments can be kept on the same timetable. The procedures writing unit also should have control of the use of forms, he recommended.

Some of his other suggestions included the following: Make the manual *readable,* both in writing style and in physical layout. Use *flow charts* where sequences of steps and operations are involved. Adopt a *classification and coding system* that facilitates filing and reference and makes possible insertion of additions. A comprehensive *index* "is absolutely a must." *Review* the manual regularly to make sure it is kept up to date. *To get full cooperation* from all personnel, enlist the active support of top management, let as many people as possible participate in the preparation of procedures, use the conference technique in installing the manual, and offer to provide assistance in educating personnel where needed.

MANAGEMENT BOOKSHELF

"REVIEW OF SMALL BUSINESS." Issued as a House report, this congressional document is an objective analysis of the problems of the Nation's numerous small business concerns. Endeavoring to create a better and more thorough understanding of the strengths and weaknesses of small business programs, this interesting study relates the independent business operation with economic controls, financing, taxation, Government procurement, antitrust regulations, and unfair trade practices. 1952. 310 p. Catalog No. 82-2:H. rept. 2513. 65¢; Order from Supt. of Documents, U. S. Government Printing Office. Washington 25, D. C.

"Management Aids For Small Business, Annual No. 2." Balanced management ability is the key ingredient in the success of most small businesses. All too often, however, owners and managers of small concerns lack balanced training and experience. Therefore, to highlight important ideas on management, the Small Business Administration publishes the periodical series *Management Aids for Small Business.* Annual No. 2 comprises 21 aids for small business, published from July 1953 through June 1954. 1956. 146 p. il. Catalog No. SBA 1.10/2:2: 55¢. Order from Supt, of Documents U. S. Government Printing Office, Washington 25, D. C.

"THE TECHNIQUE OF CLEAR WRITING," by Robert Gunning, McGraw-Hill Book Co., 330 W. 42nd St., Dept. TE&M. New York 36, N. Y. This book gives Robert Gunning, McGraw-Mill Book Co., 330 W. 42nd readable writing.

"THE TECHNIQUE OF GETTING THINGS DONE" by Donald A. and Eleanor C. Laird, McGraw-Hill Book Co., Dept. TE&M, 330 W. 42nd St., New York 36, N. Y. A practical, helpful book that shows how to plan your work effectively.

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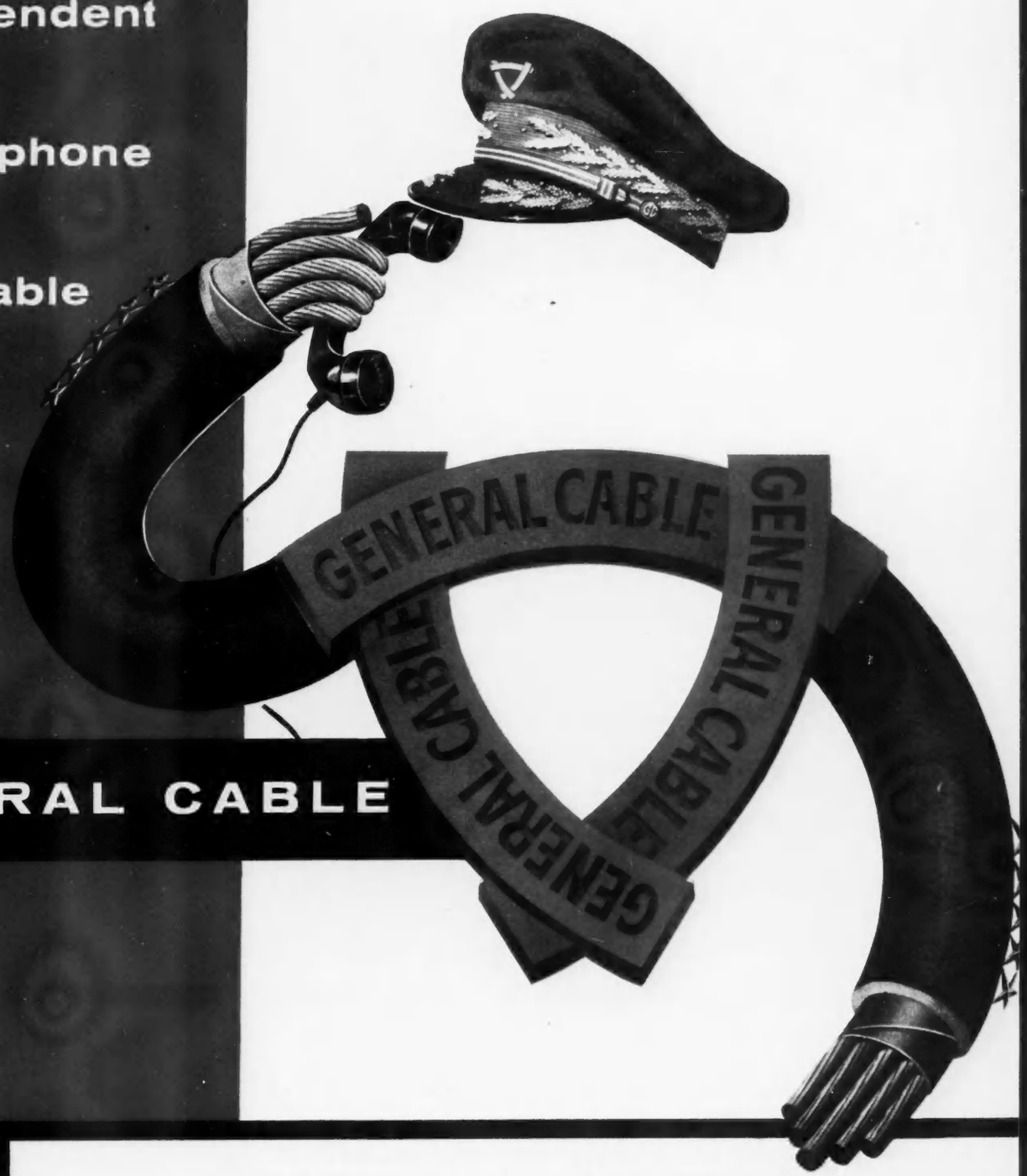
in telephone
wire
and cable



GENERAL CABLE

THE BIG NEWS IN
TELEPHONE WIRE
AND CABLE

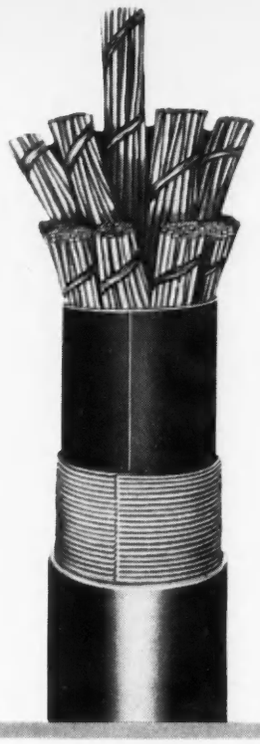
the big news in telephone cable sheaths

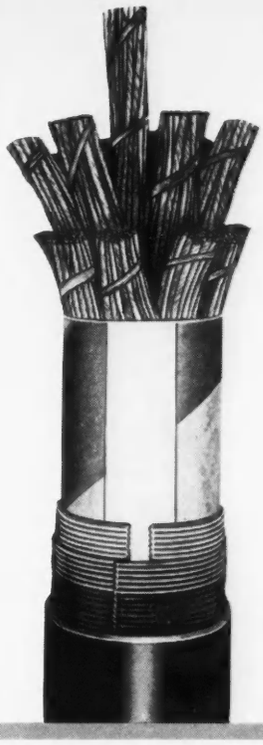
GENERAL CABLE IS THE ONLY SUPPLIER INSTALLING EQUIPMENT FOR 3 NEW TYPES OF SHEATHS

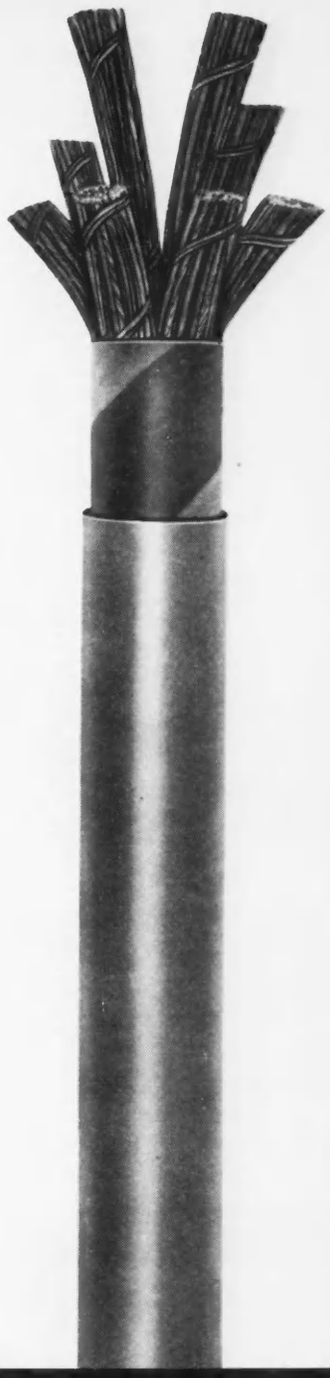
Alone among the world's suppliers of telephone wire and cable, General Cable is installing facilities to make *all* these types of new sheaths. Facilities are of a size, scope and adequacy to meet every need of the Independent Telephone Industry! Alpeth Sheathed cables will be available late in 1956. Stalpeth and Aluminum sheaths will be available early in 1957.

ALUMINUM

Light-weight, EC grade aluminum is extruded directly over the insulated cable core in the newest type of impervious telephone sheath, produced under carefully controlled temperature and pressure by an exclusive General Cable aluminum extrusion press designed and built specifically to do the job. This exclusive extrusion process eliminates length limitations imposed by other methods of aluminum sheathing.







ALPETH and STALPETH SHEATHS*

Light weight . . . handle easily . . . install rapidly

Installations can be more economical with Alpeth and Stalpeth Sheathed Cables. For example, in aerial installations there can be a reduction in messenger strand size and associated pole supports, or an increase in span lengths with resulting savings in pole line costs. These lightweight sheaths also permit pulling through intermediate manholes in underground installations, with consequent savings in splicing costs and installation time. An excellent solution for your corrosion problems!

*Manufactured and sold under patent license agreement with the Western Electric Company, Inc.

ALPETH

An Alpeth sheath, ideally suited for polyethylene insulated telephone cable, consists of a combination of 2 components: a low-resistance aluminum tape shield applied longitudinally over the cable core; and an extruded, high molecular weight, moisture- and weather-resistant polyethylene jacket. Flexibility of large size cables is assured by means of corrugations made in the aluminum tape at the time of application.

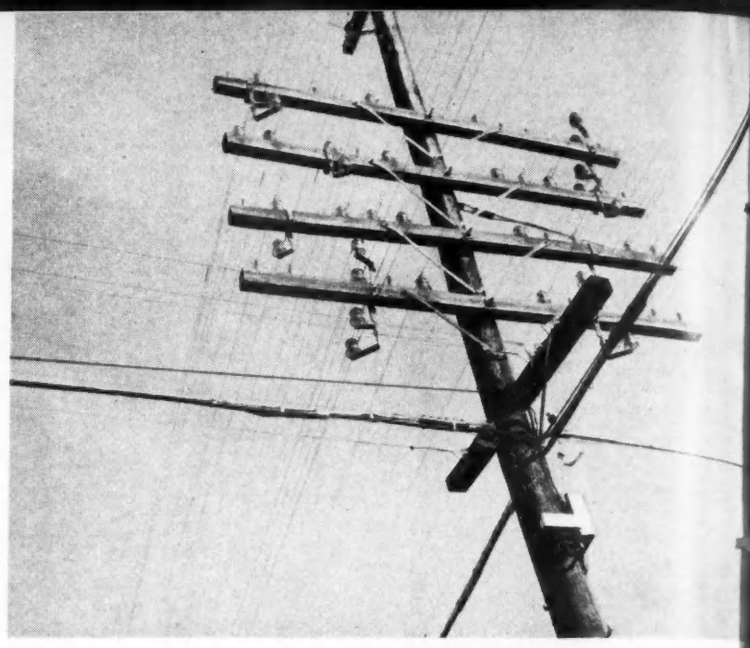
STALPETH

A Stalpeth sheath, which has a superior degree of protection against diffusion of moisture, is ideally suited as a lightweight sheathing for protection of paper insulated telephone cable: Stalpeth sheath consists of three components. The first is a corrugated aluminum shield tape applied longitudinally over the cable core. The second is a corrugated, coated steel tape applied longitudinally with the overlap seam continuously soldered. The third and final component is an extruded, high molecular weight, moisture- and weather-resistant polyethylene jacket, which is bonded to the underlying steel tape by means of a thermoplastic cement.

LEAD

The quality of General Cable's paper insulated lead sheathed telephone cable has been recognized over the years. The same high quality of cable core is maintained, regardless of the sheath design, through rigid manufacturing controls, testing and material specifications. Superior electrical performance is built into the cable core by means of planned engineering design. Paper insulated telephone cables are available in 6 through 2626 pairs in layer and unit constructions, quads, composites, and with video pairs. Cable is supplied with factory-applied pulling eyes and shipped under gas pressure at customer request.

for the best in quality . . . specify **GENERAL CABLE**

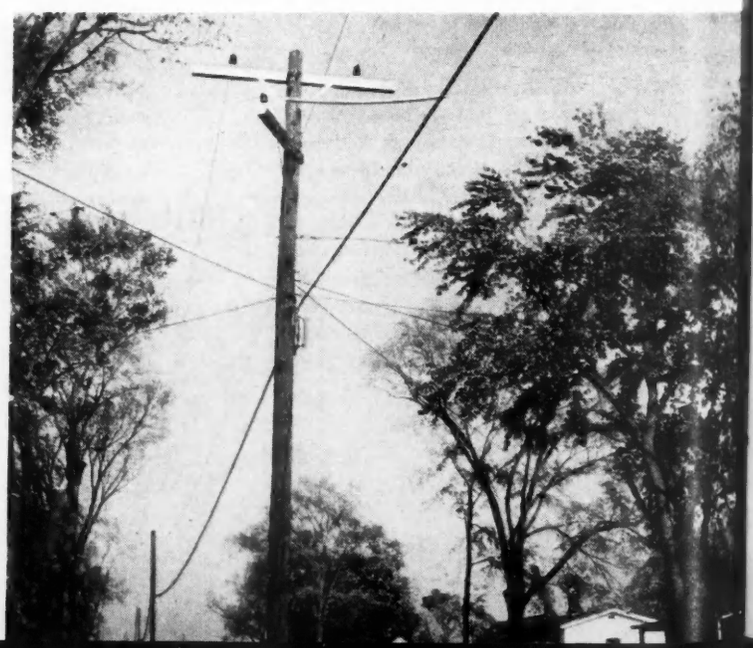


QUALITY AND LONG SERVICE

SUPERTEL

...WITH ALPETH SHEATHING

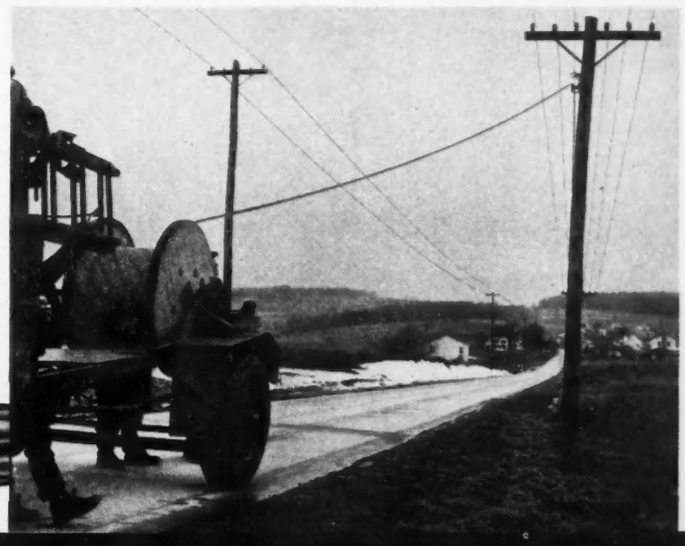
High quality transmission (equal to paper insulated telephone cable) is assured by General Cable's SUPERTEL thermoplastic telephone cable. The light-weight Alpeth sheath withstands abrasion, bending, effects of sunlight and chemicals, low temperature, deformation, and cracking. Available in 19, 22, 24 and NOW 26 gauge constructions to a maximum of 404 pairs.



DISTRIBUTION WIRES

RURAL and SUBURBAN

Black, high molecular weight polyethylene insulation, applied over the support wire as well as over the insulated conductors, has maximum resistance to environmental cracking, weathering and abrasion. Tough, abrasion- and weather-resistant color-coded PVC compound over the insulation of each conductor gives added protection as well as rapid, positive polarity identification. Staggered pair lays minimize crosstalk. Controlled cabling lay permits easy access to support wire. 19 gauge Rural Distribution Wire is available in 1 through 6 and 11 qnd 16 pairs. Suburban Distribution Wire, a first cousin of the rural type, is furnished in size 22 gauge in 6, 11 and 16 pairs.



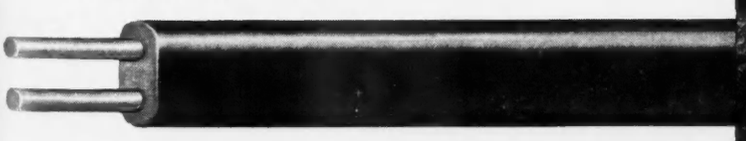
URBAN

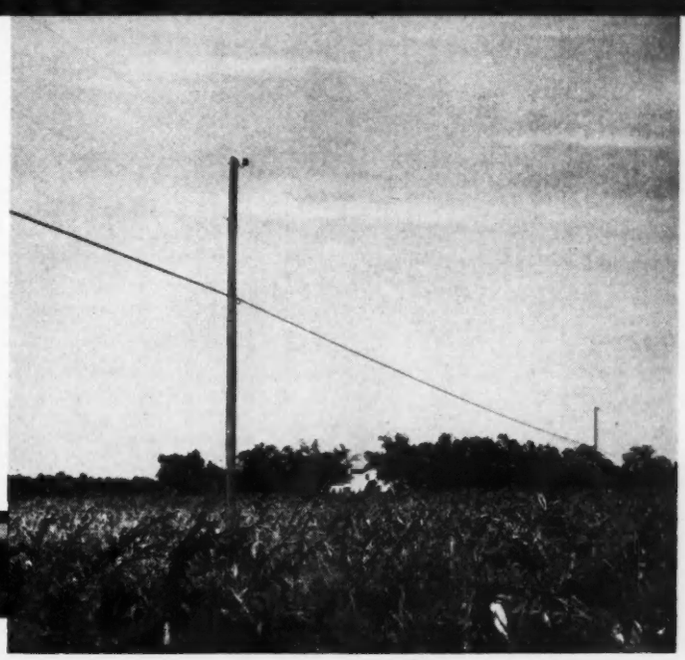
A specially-developed color-coded PVC compound provides extreme weather resistance to conductors of General Cable Urban Distribution Wire, assuring excellent electrical characteristics for the short spans common to Urban Wire use. High molecular weight polyethylene insulation is used over support wire. Staggered pair-lays minimize crosstalk, superior cabling lay permits easy attachment to support wire. Available in size 24 Awg, 16 pair only.

ONE PAIR PARALLEL

This is the latest addition to the family. High molecular weight polyethylene extruded over two parallel high-strength conductors provides a rugged, weather-resistant distribution wire of particular value for:

- laterals branching from open wire lines or cable terminals
- extension of existing lines
- addition of circuits to open wire constructions without adding crossarms
- long drops to subscribers remote from pole line
- joint use on existing power pole lines where mid-span hits may be a problem
- installations through trees which would otherwise require trimming for open wire lines.





for the best in quality . . . specify **GENERAL CABLE**

GENERAL CABLE LEADS IN QUALITY

the reasons why...

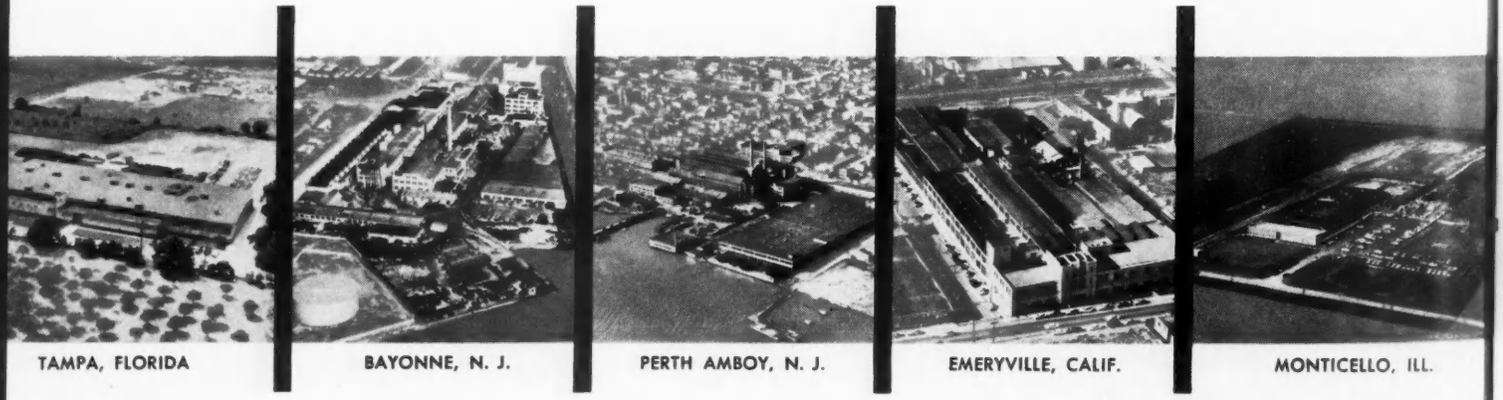
. . . With the most modern and extensive research facilities in the industry located in its Bayonne, N. J., Laboratory, General Cable constantly evaluates the present and future needs of the Independent Telephone Industry. To keep pace with these expanding needs, General Cable creates tomorrow's standards *today*.

. . . Years of research, development, and manufacture back up the unequalled quality standards of General Cable and provide the experience which is indispensable to progress.

. . . Complete process and final testing facilities at every General Cable plant insure compliance with all applicable standards. Characteristics such as capacitance unbalance are kept low to minimize crosstalk.

. . . Two new plants, now producing in Monticello, Illinois, and Tampa, Florida, in addition to extensive telephone wire and cable facilities in Emeryville, California; Bayonne, New Jersey, and Perth Amboy, New Jersey, provide manufacturing capacities and prompt deliveries adequate to meet the needs of the entire Independent Telephone Industry.

. . . In addition to these five plants, General Cable has thirteen other manufacturing locations producing building wire, power cables, bare and magnet wire.



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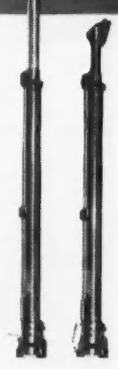
STANDARD OF THE INDUSTRY

digs at any angle

...from any position!

HIGHWAY HEAVY-DUTY "Swing-Base" EARTH-BORING MACHINE



Exclusive!

Highway Telescoping Derrick

The telescoping derrick (3500-lb. capacity) can be extended 28 ft. 6"—derrick retracts for convenience of operation. Available as optional equipment on the Model "HC" and "HCMS" Swing-Base machines.

Digs the Hole and Sets the Pole in any Soil!

HIGHWAY

A Division of the Equipment Department Merritt-Chapman & Scott Corp.

Faster, easier positioning . . .
efficient trouble-free digging at any angle —

Highway's "Swing-Base" Earth-Boring Machine allows the operator to rotate the auger 180° — extend it up to 22" — and dig at any point within the arc and within the forward and aft traverse. Both movements are hydraulic, allowing fingertip control.

This heavy-duty unit can be mounted on either a single rear axle truck or a tandem. Outstanding features include hydraulic stabilizing jacks (retractable for traveling position), integral winch, telescoping derrick, and headache rack. The live boom in traveling position requires only 123" clearance. The Earth Borer will dig 9" to 36" holes in any soil, faster and easier than ever before. Leveling mechanisms allow for digging at an angle, and the versatile swing-base platform allows exact positioning regardless of location or angle of the truck.

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Manufacturers of Public Utility Bodies • Earth-Boring Machines • Pole and Cable Reel Trailers • Winches • Power Take-Offs • Service Accessories • Commercial Trailers • Trailerized Tanks and Dry Bulk Haulers

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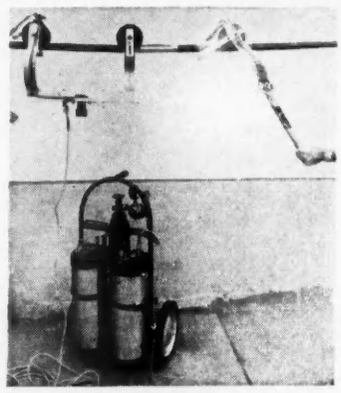
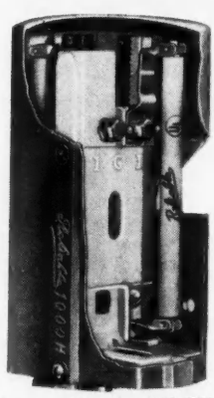
There's a Kellogg Warehouse near you

Versatile Plastic Screw Anchor meets needs of telephone industry. For use in all materials from plasterboard to concrete, indoors and out. Nine sizes for screw sizes 5 through 20 and ¼" through ½" Lag Screws. HOLUB INDUSTRIES, INC.



Cable Leak Dectector — Two models are illustrated. Model at left is for high cables. Nozzles spray cable, air pressure from tanks causes air bubbles clearly seen from ground. S & G MFG. CORP.

Exchange Area Cable for aerial and duct use. TELECABLE* has polyethylene insulation and sheath, excellent transmission qualities. 202 Pair and smaller. Approved by REA. *TELECABLE is a trademark of WHITNEY BLAKE COMPANY.



Standardize on the "1000-H" Outdoor Protector with its self-cleaning Sawtooth Discharge Blocks. Made by RELIABLE ELECTRIC CO., with phosphor bronze clip; aluminum mounting bracket. Its low-absorption porcelain base prevents danger of shorting with fuse clips.

Seven Kellogg warehouses and over 100 Kellogg distribution points from coast to coast assure you savings in shipping costs and fast delivery. You get the benefit of Kellogg's selection of top quality line supplies, too.

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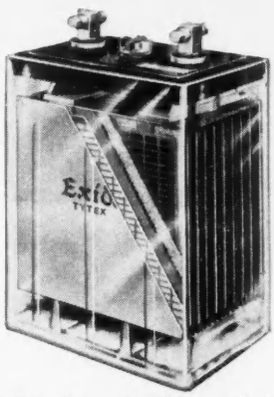
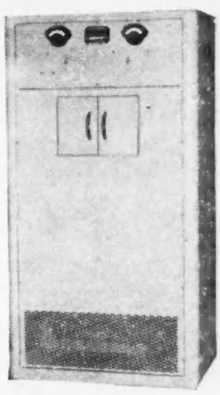
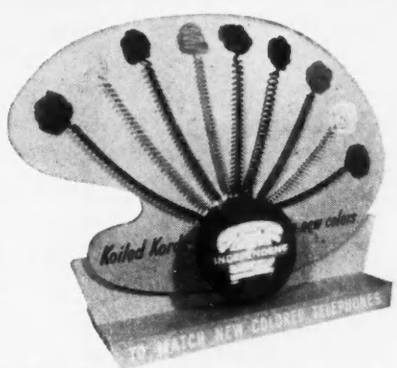


This Battery Keeps Itself Young for Years. The Exide Manchex Battery has a reserve supply of lead always available to be converted into active material as needed. Hence the unusually long battery life. Exide Industrial Division, ELECTRIC STORAGE BATTERY COMPANY.



Self-Contained Unit —The 3-phase Flotrol Automatic Constant Voltage Battery Charger has no moving parts — all components in one cabinet. Designed for plants requiring 25 to 400 amps charging capacity. LORAIN PRODUCTS CORPORATION.

The Time-Tested Steel Strand. A ductile, adherent zinc coating applied by the famous Crapo Galvanizing Process provides lasting protection against corrosion in INDIANA STEEL & WIRE CO.'s Crapo Steel Strand. Minimum maintenance expense.



Koiled Kords — Customer satisfaction and long service life are assured with Koiled Kords retractile telephone cords. Black cords available for replacement. Black and colors available for use on all new equipment. Made by KOILED KORDS, INCORPORATED.

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"Am I lucky...there's a pay-phone near!"

"Now, wouldn't you know! A tire to change—just when I've got to look my very best.

Thank goodness there's a pay-phone near by. I'll be able to get a repair truck here in a jiffy. That telephone company is my friend for life!"

Every day, roadside telephones are "lifesavers" for troubled motorists. Smart telephone companies know their 'round the clock service not only earns immeasurable good will, but brings in handsome revenue, too.

Is your company getting its share of paystation business? Write today for our Survey Simplifier—you'll find it a valuable aid. Address: *Automatic Electric Sales Corporation, 1033 W. Van Buren St., Chicago 7. Or call HAymarket 1-4300.*

AUTOMATIC ELECTRIC

ORIGINATORS OF THE DIAL TELEPHONE

a frank report

from the industry's newest manufacturer of plastic cable

Our West Coast facilities are making cable now....

In June our Redwood City, California, plant shipped its first order of telephone cable—manufactured on the most modern equipment obtainable. Meticulous quality control, we believe, makes this cable as good as any of its type ever made. More new processing equipment is now being installed.

And our delivery situation is this....

Depending somewhat on the size of cable you require, we will be able to make delivery in 60 days (or better). We have some popular sizes available from stock. As we are located in the West, shipping time to western users will be only a matter of several days.

We offer you more than telephone cable....

Sequoia feels that service is an important part of sales. We can and want to provide you with engineering assistance. May we analyze your installation, splicing and other problems and have our experienced engineers help supply solutions?

If you're near San Francisco, won't you visit our plant?

Sequoia is new in the telephone business, although for years we have been making electronic wire and cable to meet rigid military specifications. We want to meet you and have you visit our plant and facilities. In Redwood City, just 30 minutes south of San Francisco, via Highway 101.

You know Harry Burd....

Harry Burd, a veteran in the telephone field and one of the best known men in the cable manufacturing industry, has joined Sequoia as a special consultant for manufacturing and marketing.

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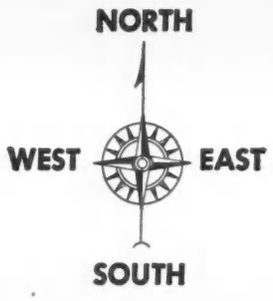
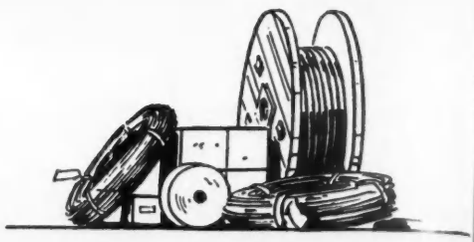
sequoia wire

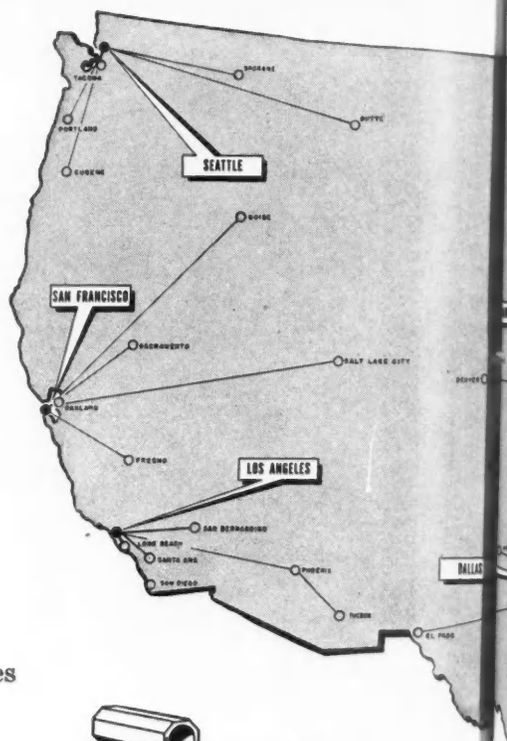
a division of Sequoia Process Corporation





serv

To Independent Telephone Companies

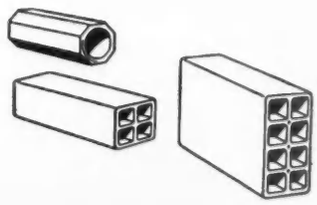


From its earliest beginnings, the telephone industry and Graybar have grown up together. And, with every advance in telephony, Graybar has extended its facilities and services in a tradition that still remains unchallenged.

Furnishing the thriving independent telephone industry with supplies and equipment for efficient, profitable operation is the job of your local Graybar Representative. His intimate knowledge of *your* requirements, backed up by Graybar's close contact with the nation's leading suppliers, simplifies your purchasing problems and assures "on time" deliveries.

And remember, complete catalog and specification data is always available on any of the hundreds of items you need – from fuses to switchboards . . . poles to insulator pins . . . tools to terminals. We'll welcome your call for information.

For service, for speed – you'll find it pays to make all your orders read..."via Graybar."



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Executive Offices
420 Lexington Avenue, New York 17, N. Y.

Call Graybar first for...

In Over 130 Principal Cities

EVERYTHING YOU NEED IN TELEPHONE SUPPLIES AND EQUIPMENT

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ONE RESPONSIBILITY

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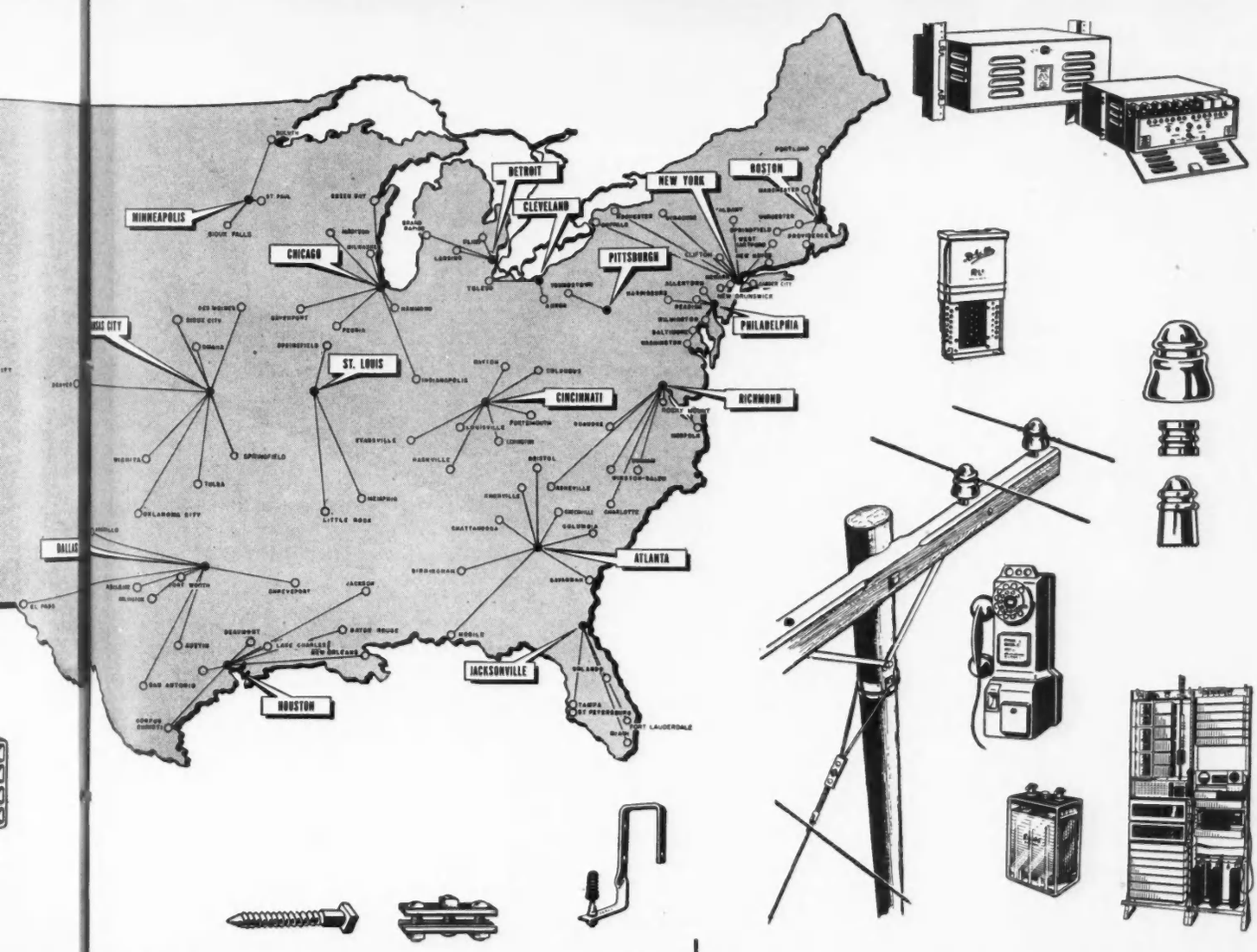


A NATIONWIDE WAREHOUSE SYSTEM . . .
Over 87 years' experience helps us to anticipate and forestall local shortages before they become critical . . . permits us to shift emergency stocks to meet your requirements. Over 130 strategically-located offices and warehouses make Graybar service as close as your telephone!

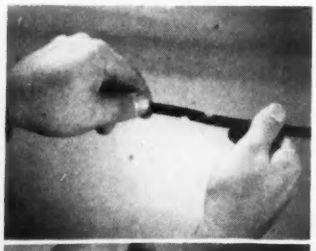
GRAYBAR TELEPHONE SPECIALISTS . . .
located throughout the country to assist you, your contractor or consulting engineers in solving out-of-the-ordinary problems. Remember, too, that Graybar is owned solely by its operating and retired personnel. You'll get that extra bit of attention from friendly people anxious to please.

TWO GREAT NEW PRODUCTS..

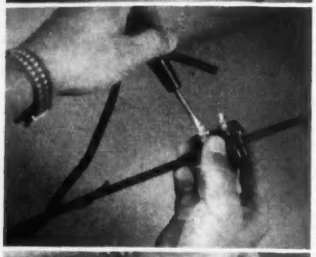
SUPERIOR TERMINAL

SUPERIOR Parallel LINE WIRE

Easy Installation of
SUPERIOR PLWT-1 TERMINAL

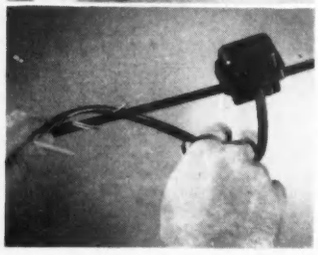


Skin line wire insulation.



Fix terminal in place on line wire.

Connect drop wire.



Snap on neoprene terminal cover.

These two great *new* products of the Superior Cable Corporation are closely matched for long life, ease of installation and economy.

The new SUPERIOR PLWT-1 TERMINAL is of an exclusive design . . . is weatherproof and is self-supporting on the line wire. Provides positive and continuous contact of conductors at the point of take-off. Simplifies drop line connections.

New SUPERIOR Parallel Line Wire is completely insulated with high grade polyethylene . . . available with one pair of 12 or 14 gauge copperweld or .083 inch galvanized special steel wire conductors.

The outstanding self-supporting characteristics and low attenuation of SUPERIOR Parallel Line Wire make possible long drop runs to serve subscribers distant from the main pole line at minimum cost. Use in place of open wire for greater economy and efficiency.

For detailed specifications, write

SUPERIOR CABLE

SUPERIOR CABLE CORPORATION
Hickory, North Carolina

EDITORIAL

"Emphasis On The Future"

"SOMETIMES," Old Timer told a group at the recent USITA Convention, "*it pays to take a look back to see how far we've come . . . .*"

From there Old Timer took us back to the day when no connections were considered correct without making the wire into a spiral; when nothing was assembled, much less tested, and getting supplies at the storeroom followed a simple procedure — "*you asked for what you wanted and put it in your pocket if it wasn't too large.*"

"*The installer walked to his job in those days,*" Old Timer said. "*Many a time I have carried a wall switchboard on my back, balancing a desk telephone and a coil of wire while the wall telephone was over the other shoulder and six glass jars tied together with their contents in the other hand. My pockets were stuffed with screws, receivers, cords and tools . . . But I'm glad those days are behind us. Today, the emphasis is on the future where it should be . . . .*"

And that's where the 1956 USITA Convention rightly placed its emphasis. Sure there were many who looked backwards as did Old Timer. But we noted the backward looks were brief and the young and old industry members agreed with USITA President Merle Hale when he said at the first general session of the convention:—

"*We have come a long way since first we crept in swaddling clothes at the turn of the century. Now the question is: Where do we go from here and how do we get there?? . . . If we are to keep in step and not fall by the wayside, we must make some drastic departures from the old established order of things . . .*"

We're glad Mr. Hale and other convention speakers emphasized that if the industry is to meet the challenges of the future "*drastic departures from the old established order of things*" will be necessary.

This interest in the distant forest rather than in the stately trees which constitute it is, we believe, all to the good.

Many of the old frontiers are gone and will never again be frontiers. Others such as the goal of better, cheaper service to more people under more conditions, remain as challenges and always will.

It is toward such goals that industry members are looking as they blue print the telephone job of the future.

We believe *Merle Hale* summed up the job when he said:—

"*If we are to meet these new challenges of the electronic age, if we are to maintain the communications that have become so necessary to our way of life, there are many things we must do. First and foremost we must maintain, and in many cases improve, earnings. That, I know, is easier said than done. The current new inflationary trend does not simplify our task. But we shall have to find a way.*

"*We must maintain good plants and give good service. We shall need to look to our revenues by adopting more aggressive and carefully planned merchandising techniques. We shall need to muster all of the know-how we can command, and that brings me to what I think is going to be our greatest need of all — people. We are going to need trained, intelligent people to man our complicated gadgets and machines, and to help us solve the problems generated by the most complicated machine of all — the human personality . . .*"

We believe that statement keynoted the convention's rightful emphasis on the future — a future, we well know, will continue to be met by telephone men who have faced up to the job that lies ahead.

Old Timer put additional emphasis on that future when we saw him after the convention ended.

He said — "*Fifty years from now some other 'Old Timer' will come to the convention. He'll look back to today as I looked back to 50 years ago and what he describes will sound just as old fashioned and obsolete as what I described the other day. But that's progress. I'd like to be around to hear tomorrow's old timer talk . . . .*"

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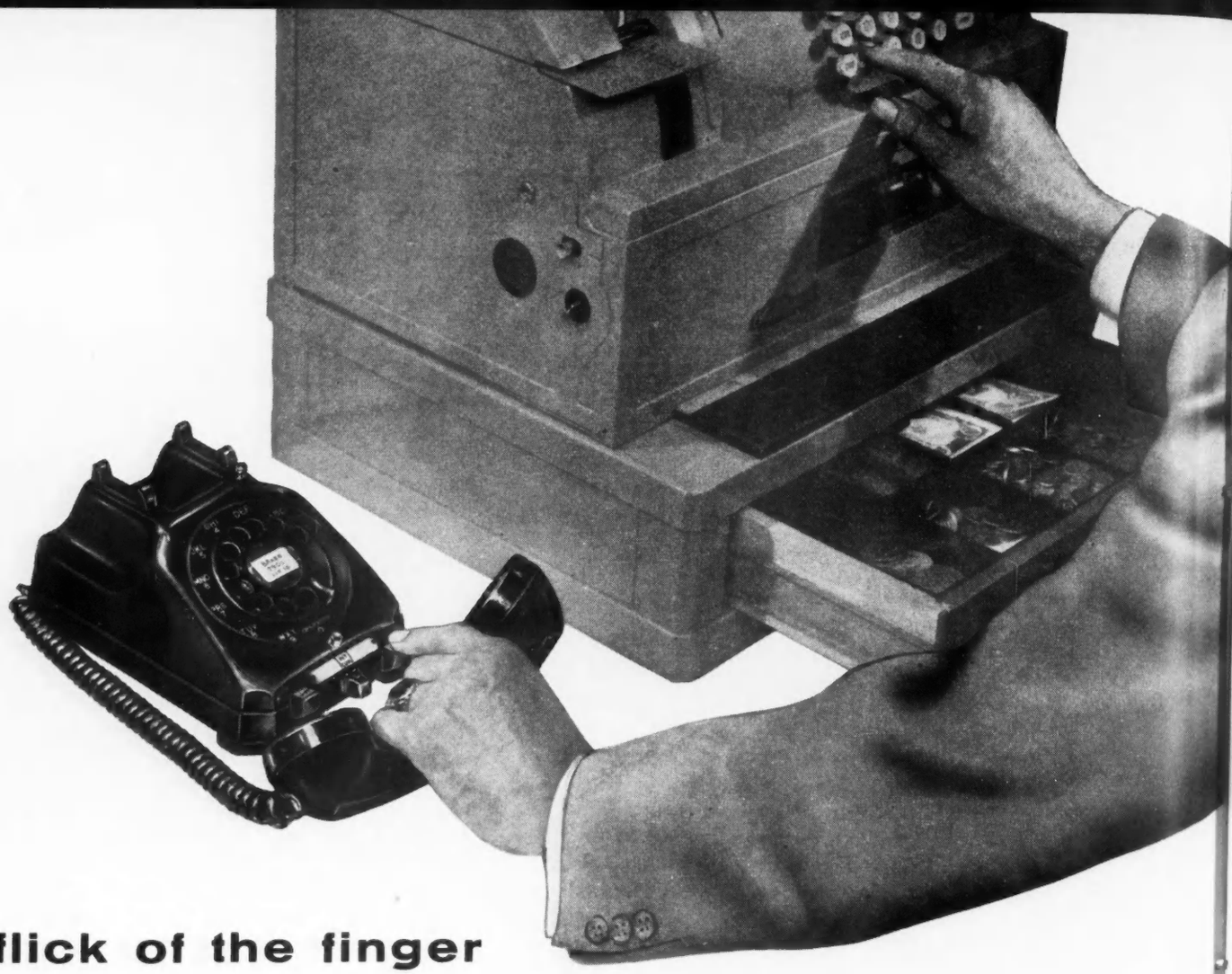


a flick of the finger

means more revenue for you

Anyone who needs two-line convenience in a single instrument is a "hot" prospect for a Stromberg-Carlson No. "1573" Two-line Telephone.

You can boost your income by promoting this service to small offices, stores, doctors, restaurants, garages, real estate agencies—a host of commercial subscribers.

Easy to Use

With the No. "1573" two trunks terminate in one smartly styled instrument. By using the handy selector switch in the base, the subscriber may initiate or receive calls on *either* or *both* lines and hold all outside calls. A center switch position is also provided on the telephone which may be used, if desired, to connect the telephone to an internal communication line. A separate pushbutton and buzzer box is also available which may be used for intercom signaling.

For additional details on this revenue-boosting telephone contact your Stromberg-Carlson representative.

STROMBERG-CARLSON COMPANY

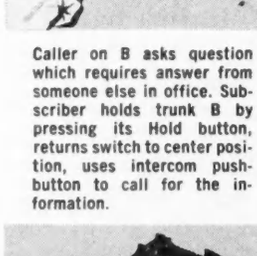
A DIVISION OF GENERAL DYNAMICS CORPORATION

SALES OFFICES:

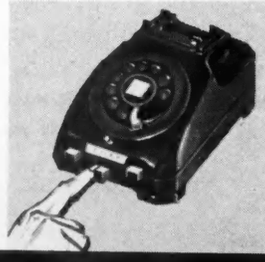
Atlanta 3, Chicago 6, Kansas City 8, Rochester 3, San Francisco 3

Call comes in on trunk line A. Subscriber flicks switch to proper position and lifts receiver to answer call.

During conversation line B rings. Subscriber asks caller on A to wait, then presses Hold button. Flicking switch to right, he answers call on line B.



Caller on B asks question which requires answer from someone else in office. Subscriber holds trunk B by pressing its Hold button, returns switch to center position, uses intercom pushbutton to call for the information.



Subscriber reconnects with held calls by pushing switch to proper position. He completes both calls without asking anyone to call back or using more than one 'phone.

Announcing THE NEW COOK TELEPHONE EQUIPMENT Catalog

66 ILLUSTRATED TABULATED PAGES

of Protection and Distribution Equipment

The all new Cook Catalog is not a re-run, not modified or added to. It is an entirely new book containing 66 pages of illustrations and newly edited descriptive material. Most important is the cataloging of new Cook products and improvements. Therefore, if you are interested in the latest and best in Telephone Protective and Distribution Devices, we recommend that you obtain a copy for your files.

If you do not receive a copy within the next thirty days through regular channels, then we suggest that you:

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2. Request a catalog by mail from Cook Electric Company, and we will direct a copy to you through your local distributor's office or warehouse
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This new 66-page catalog, just off the press, is tabulated, indexed, and loose leafed with a plastic binding. Subsequent subissues or new pages can be conveniently inserted and bound, thus keeping the catalog current at all times. It is also cross indexed with the price list.

COOK ELECTRIC Company
Since 1897

2700 SOUTHPORT AVENUE CHICAGO 14, ILLINOIS

"Who's in charge here?"

"About that crazy tower you're putting up in my back yard . . . "
Oh, that? Yes. Telephone tower.

"Telephone tower? Telephones use poles, doc."
Not this kind. Microwave. Shoots phone calls right through the air. No poles. No wires.

"No wires?"
Matter of fact, one microwave tower does the work of hundreds of telephone wires.

"Sounds good."
Other advantages. No weather or maintenance problems. Tops for tough terrain. And adding new circuits is a cinch.

"This thing catchin' on?"
And how! Coast-to-coast success. Independent telephone companies solve a lot of problems with Lenkurt Microwave.

"Lenkurt?"
Check! And Lenkurt Microwave is distributed by Automatic Electric.

"Automatic Electric?"
Yep. That outfit will lean over backwards to help *any* telephone company get started in microwave or carrier. They're at 1033 West Van Buren Street, Chicago 7, Illinois. Or phone 'em at HAymarket 1-4300.

Photograph courtesy of Walt Disney Productions

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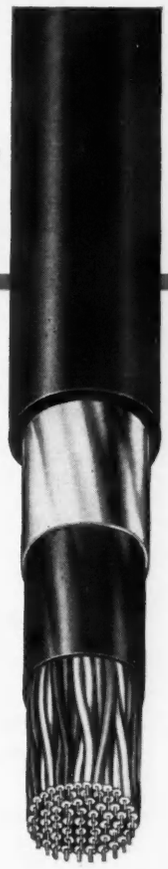
GENERAL SYSTEM INDEPENDENT

Originators of the dial telephone • Pioneers in automatic control

ANOTHER

ANSONIA® Ankoseal®

FIRST!



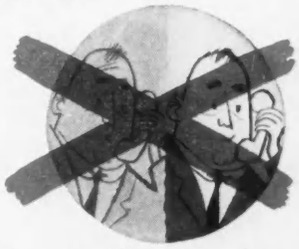
Exchange Cable to Provide Electrical Properties Adaptable For Finest, Most Advanced Carrier Systems in Service

Effective October 1, 1956, all ANKOSEAL 775-P cables normally rated as exchange cables are being delivered with electrical characteristics proved adaptable for use on the finest carrier systems in service.

SPECIFY ANSONIA® Ankoseal® and be sure you can "go to carrier" any time you wish free of:

Noisy Cable

Excessive Cross Talk



Excessive Circuit Unbalance

No other independent telephone cable manufacturer can make this statement supported by proved values . . . only ANSONIA has the experience, equipment and know how to deliver these great cables.

Join the switch to ANKOSEAL . . . always FIRST to bring the independent telephone industry the most wanted and needed advances in major cable designs.

THE ANSONIA WIRE & CABLE COMPANY · ASHTON · R. I.

The Oldest Name In Plastic Telephone Cables In The Most Modern Plant Devoted Entirely To Producing Plastic Cables

A communications utility used its 702 to dig 18,000′ a month. One job—opening 2500′—cost one-third of the estimate . . . establishing a new low for underground cable installation.

Now you can place your cable underground at low cost

The many advantages of having electric and telephone cables underground have long been recognized. The chief obstacle has been the cost of digging and backfilling the required trench.

The new Barber-Greene 702 Ditcher has solved this problem. Despite its small size, the 702 is the newest machine in the most rugged line of ditchers made.

Prior to this new development, available machines either dug too wide for practical and economical operation, or did not have the stamina and digability required for coping with unfavorable conditions.

Utilities, contractors and railroads are now gaining the advantages of underground lines and services in virtually every area of the country.

Applications, to date, include electric power and telephone lines and house services, railroad signal systems, traffic control systems, outdoor theater wiring, installations of small gas and water lines and services, lawn sprinkling systems, and others.

Digs to 40″ deep, 5″ wide. The 702 can be towed or carried on a light truck. Simple dual controls permit operation from seat or from side of machine for full view of trench.

56-10-D

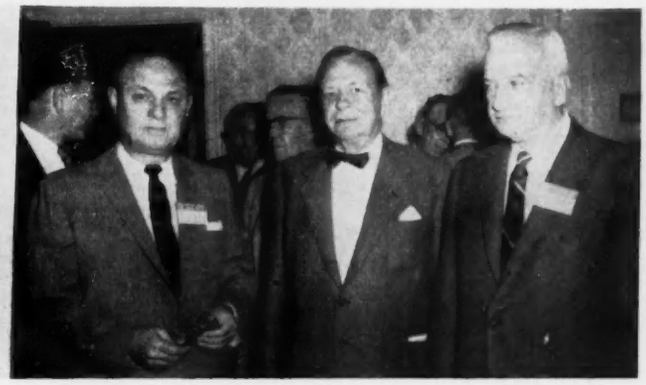
Write for literature on this important, new, low-cost ditcher

Barber-Greene BG

AURORA, ILLINOIS, U.S.A.

CONVEYORS . . . LOADERS . . . DITCHERS . . . ASPHALT PAVING EQUIPMENT

LEFT PHOTO: DONALD C. POWER (left), newly-elected USITA President receives gavel from MERLE M. HALE, immediate past president. RIGHT PHOTO: USITA Director BALLARD ATHERTON, Honolulu (left); FOSTER McHENRY, Jefferson City, Mo., USITA vice pres., and R. A. LUMPKIN, Mattoon, Ill.



USITA CONVENTION PHOTOS (left to right): New USITA Directors BOB FEGAN, Junction City, Kans. and WALTER WRIGHT, El Paso, Texas; new USITA Vice President FOSTER B. McHENRY, Jefferson City, Mo.; Director W. C. HENRY, Bellevue, Ohio; USITA President, MERLE M. HALE, Lincoln, Neb.; Director FRANK BOHN, Fort Wayne, Ind.; and Director THOMAS BOYD, New York City.

3,100 Independents

Attend 59th USITA Meeting

By JOHN G. REYNOLDS

A NEW ATTENDANCE record was established October 15, 16, 17 when nearly 3100 members of the Independent telephone industry, moved into Chicago's Conrad Hilton Hotel for the 59th annual meeting of the United States Independent Telephone Association (USITA) and participated in departmental conferences, general sessions and other events that emphasized the new challenges of the electronic age and the fact that meeting the challenges of the future means "drastic departures from the old established order of things . . . ."

Although electronics is not a new word to the telephone industry, it grew in stature and importance on October 15 when Plant Conference speaker B. C. Burden, Lincoln, Neb., emphasized, "We are on the verge of what may properly be termed 'a new era of communications . . . We are fast approaching the time when we may pass from the direct current and relay phase into a new period in which electronics will play the major role . . . ."

"The great scientific era now beginning to unfold," Mr. Burden said, "should be a challenge to all Independent telephone plant men. We must become thoroughly familiar with the new tools and techniques which will soon be commonplace in our industry. A knowledge of ohms law and the ability to find one's way around a DC circuit diagram will

no longer suffice. In the not too distant future, we will be dealing with electronic circuits which will require a sound engineering knowledge of advanced alternating current theory and of the operating characteristics of many new components and of circuitry far different in concept and execution than the circuits we know today. We must embark on a program of self-education so we will be ready for these new developments as they emerge from the laboratory . . . .

Further emphasis was placed on the electronic age by USITA President Merle M. Hale, Lincoln, Neb., when he warned the convention that "our advances in electronics and automation pose problems we can't solve overnight . . . ."

"Many of their practical benefits to mankind are quite a way off," he said, "but we cannot ignore their potential place in the scheme of things as we blueprint our path for the future . . . ."

Other featured speakers at the sessions, included Lieutenant General Leslie R. Groves, USA, (retired) head of the wartime atom bomb project; Rev. James W. Fifield, Jr., pastor of the First Congregational Church of Los Angeles, California; and Arthur S. Hann, faculty member, University of Michigan, Ann Arbor, Mich.

Also emphasizing the future, manufacturers and suppliers of telephone equipment had on display the latest electronic devices and new methods of modern telephony, including direct distance dialing, which enables a telephone user to dial his long distance number without the intervention of an operator. The Independents, who originated the dial system of telephony, and introduced the first popular handset to the telephone world, also displayed colored telephones of the latest design, automatic toll ticketing and billing equipment, ingenious timing devices and voice recorders.

FOSTER B. McHENRY (left) retiring president of the Independent Telephone Pioneer Association receives plaque commemorating his services to ITPA, from RALPH LUCIER, newly-elected ITPA president.

Editor's Note

The TE&M camera was busy at the recent USITA Convention. Several of the photos appear in this issue. Others will be published in succeeding issues.

DIRECTORS of the Independent Telephone Pioneer Association (l to r): MISS E. M. HIESTAND, Madison, Wis.; BILL MILLER, Des Moines, Ia.; MRS. MAYME WORKMAN, Springfield, Ill.; W. P. STRICKENBURG, Meadville, Pa.; D. B. CORMAN, Louisville, Ky.; R. F. LUCIER, Warsaw, Ind. S. F. NIXON, SR., Westfield, N. Y. Directors GEORGE HAMBURGER, Washington, D. C. and KELLEY McNISH, Bristol, Tenn. were not present when photo was taken.

Donald C. Power Elected USITA President

AT THE organizational meeting on October 17, the head of the nation's largest Independent telephone system, Donald C. Power, president of the General Telephone Corp., New York City, was elected USITA president.

The new president of USITA attended Denison University during 1918-20 and Ohio State University from 1920-27, from which university he received his Bachelor of Science, Master of Arts, and LL.B. (law) degrees.

Upon his admittance to the bar he entered the private practice of law in Columbus, Ohio, engaging in cases before numerous branches of the judicial system, including the Supreme Court of the United States. He was appointed to the staff of the attorney general of Ohio, assigned to cases involving the Public Utilities Commission of Ohio. He served as secretary, to John W. Bricker, Governor of Ohio from 1938-1943, and served as chairman of the Ohio Republican Campaign Committee in 1938, 1940, and 1942.

(Please turn to page 91)

LINDSAY TELEPHONE SUPPLY CO.
CLEVELAND 5, OHIO
...SPOTLIGHTS ON
COMPTOMETER
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COPPERWELD STEEL COMPA
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AUTOMATIC
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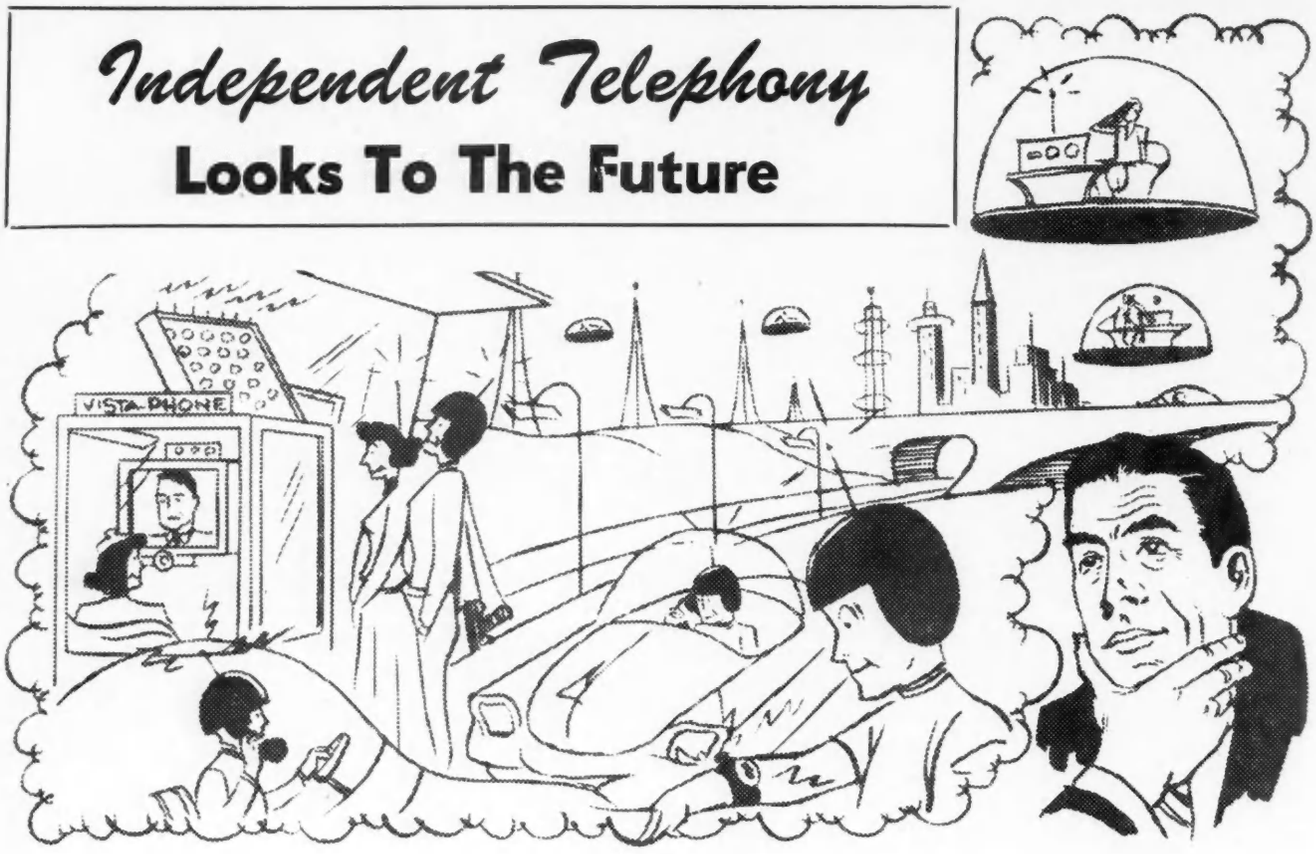
Independent Telephony
Looks To The Future



By MERLE M. HALE*

"THE FUTURE is bright for the Independent telephone industry. Today, over 4700 Independent companies operate nearly 11,000 exchanges, serve nearly nine million telephones, and investment in their combined plants exceeds two and one-half billion dollars. We have proof positive that the communications industry will grow, that current types of service will be improved, and that new forms services will become available . . . ."

IN LATE YEARS, it seems to have become the task of the outgoing USITA President to forecast the future — something that no man has been able to do with any degree of accuracy since time began. In attempting to predict what is going to happen in our business puts me in the position of the minister who finished his talk to a Sunday School class and asked if there were any questions. A shrill voice piped up, "Please, sir, why did the angels walk up and down Jacobs ladder when they had wings?" "Ah — er . . . a good question," said the minister, "Now would anybody like to answer?"

As I see it, our situation right now is a little confused and complicated by a lot of things, and anyone who can predict the outcome is qualified to answer an ad that recently appeared in a Nebraska newspaper! "Wanted — a man to work with dynamite. Must be willing to travel!"

However, there are some things, I think, that are almost self evident.

Before we seek to lay out a blue print for the job that lies ahead, first let us pause briefly to see how far we have come and where we stand.

Our past need not detain us long. Some of you have lived long enough to have seen the telephone, once regarded as a toy, develop into the nerve system of a nation. Independent telephony has played an important and historic part in that development.

Statistics Reflect Our Growth

TODAY OVER 4700 companies, through some 11,000 exchanges, operate nearly nine million telephones which serve two-thirds of the geographical area of the nation and its territories. Investment in our combined plants now exceeds two and a half *billion* dollars, and our annual gross revenues total approximately six hundred and fifty million dollars.

Today we join with the Bell System, one of the world's largest and most successful enterprises, to give this country the best telephone service in the world. Together we interconnect more than 56 million telephones here at home, and can connect with some 40 million in the world outside. This country, with 6 per cent of the world's population, has 57% of the world's telephones.

Yes, we have come a long way since

*Mr. Hale, 1955-56 *USITA president and vice president of the Lincoln (Neb.) Telephone & Telegraph Co., presented this paper at the* 1956 *USITA Convention.*

MEMBERS OF these USITA Convention groups are (l to r): USITA 1st Vice Pres., C. W. HAAS, Big Timber, Mont.; Director HANS Y. KRAEPELIEN, Galion, Ohio; Director FRED NORRIS, New York City; and Director of Information LEON ROBERTS, Washington, D. C.; Directors FRANK S. BARNES, Rock Hill, S. C.; FRANK LA PRADE, Martinsville, Va., and ANDREW J. SORDONI, Wilkes-Barre, Pa.

first we crept in swaddling clothes at the turn of the century. Now, more important the question is: Where do we go from here? And how do we get there?

None of us know exactly, but there are certain facts and trends which enable us clearly to see what lies ahead with at least a fair degree of certainty.

Technologically, we are way ahead of ourselves. Our advances in electronics and automation pose problems we can't solve overnight. Many of their practical benefits to mankind are quite a way off, but we cannot ignore their potential place in the scheme of things as we blueprint our path for the future.

Today's telephone communications systems have been built around two principal instrumentalities — the relay for the complicated job of interconnecting lines, and the vacuum tube for extending transmission to great distances. Many other complicated devices have been based on these two major developments.

One of these — not so complicated but world-transforming despite its smallness and simplicity—is the transistor. It has been said that this little device symbolizes the new era just beginning to unfold. *Fortune* magazine said of it: "In the transistor and the new solid-state electronics, man may hope to find a brain to match atomic energy's muscle."

We all know that in the telephone business the transistor already is a vital part in the complicated computer type switching systems that ultimately will enable any telephone user to dial his calls across the continent as easily as he now calls across the street. In fact, people in many communities already are doing so, speeding their messages over an intricate network of microwave radio coaxial cable, and aerial and underground cables equipped with carrier.

Closed-circuit television is fast becoming a facile tool for industry, and only recently we read that telephone-television has come closer to actuality through the development by Bell Laboratories of a telephone that transmits pictures along with sound so that persons talking by phone may see each other on a 2-by-3-inch screen. It is the first system of its kind to use a pair of ordinary telephone wires. A caller's picture can be dialed like an ordinary telephone call, and we are told by the technicians that ease of installation of the equipment gives it promise of being commercially feasible.

Machines Now Have A Memory

UNDER development today is a new switching system capitalizing on the high speed of electronic switches and using fast electric memory. We are told that within a couple of years, this equipment will be in actual use. Whereas today, when you dial a number, a thousand or more relays must operate to put your call through, the new electronic system will have no moving parts. It will be much smaller, more compact than present systems, and its fast electronic logic and memory will enable it to diagnose its own troubles, and will make possible new kinds of services not feasible with present electromechanical systems.

There are other predictions that we can make without much hesitancy. We have proof positive that the communications industry will grow, that current types of service will be improved in their usefulness, and that new forms of communications services will become available.

It is estimated that before the end of this century more than 100 million telephones will be in service in this country. A great many of the sets will be in color, and an extension in each room will be as commonplace as an electric outlet by each chair. Party lines are expected to disappear, and most residences will have a second line. Equipment will function in millionths of a second, instead of thousandths of a second as at present.

Television and other forms of visual communication will be widely used in industry; the use of facsimile over telephone circuits will be extended; higher speed teletype transmission will be placed in commercial service, and data transmission over regular telephone circuits will be used generally, permitting efficient centralized bookkeeping by national concerns.

It is not difficult to visualize the potentialities of these remarkable inventions, and the impact they will have on our industry. While changes will not come overnight, many of them will be upon us before we know it. They compel us to take a new look at future plant requirements and expansion programs. We can depend upon it that new problems will arise. As these changes and new challenges confront us, we will need to resharpen our senses as to the right thing to do and when to do it.

Off With The Old, On With The New!

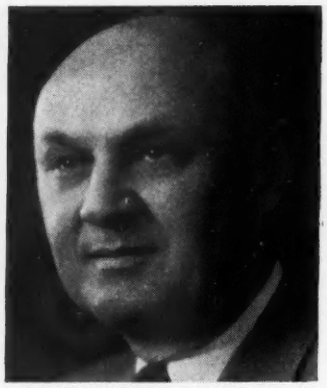
IF WE ARE to keep in step and not fall by the wayside, we must make

some drastic departures from the old established order of things.

If we are to meet these new challenges of the electronic age, if we are to maintain the communications that have become so necessary to our way of life, there are many things we must do. First and foremost we must maintain, and in many cases improve, earnings. That, I know, is easier said than done.

We must maintain good plants and give good service. We shall need to look to our revenues by adopting more aggressive and carefully planned merchandising techniques. We shall need to muster all of the know-how we can command, and that brings me to what I think is going to be our greatest need of all — people. We are going to need trained, intelligent people to man our complicated gadgets and machines, and to help us solve the problems generated by the most complicated machine of all — the human personality.

Summing up a recent talk to some college students on the challenging aspects of modern telephony, Eugene



MERLE M. HALE, 1955-56 USITA president, is vice president of the Lincoln Telephone & Telegraph Co., Lincoln, Neb.

J. McNeely, executive vice president of the American Telephone & Telegraph Co. said:

"The success of any organization, business, city, or nation depends upon three things: (1) *the kind of people in it — their character, their ability, their objectives;* (2) *the money, material, information, equipment available; and* (3) *how well the people work together as a team.*

"With all of the brilliant research that has been done and all of the amazing scientific discoveries, we still know very little about people and why they act as they do. Jealousy, greed, a desire to be a big shot or to dominate others is just as common now as it was 100 years ago. We hope progress will be made in this field in the years ahead . . . ."

Managers Must Be Developed

IN LOOKING ahead to future personnel requirements, we shall need to give more attention to management development programs. Someone has said that "only the future holds the answer to how well we build today." The opportunity to build today for tomorrow is available to every telephone executive. Through management development programs, carefully thought out and planned for the long view, a manager can produce from his own ranks men well qualified to fill the highest positions.

One exception may have to be made. We may have to go outside our ranks on occasion to recruit engineers. We all know that the shortage

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USITA DIRECTORS (l to r): E. M. BLAKESLEE, Santa Monica, Calif.; L. W. HILL, Tarboro, N. C.; RAY DALTON, Everett, Wash.; BALLARD ATHERTON, Honolulu; and LESLIE WARNER, Chicago.

of engineers poses a serious problem in this country. In the light of the challenge facing us, the college graduate trainee assumes an important role.

Perhaps it is timely to ask ourselves a few questions in this respect. Is the Independent telephone industry attracting its share of college graduates? If not, why? Are company recruitment practices in college placement work outmoded? Are adequate training programs being provided? How are starting salaries compared to other industries? These it seems to me, are questions we shall have to ponder. They deserve and demand our attention.

We shall need to give better training to our present engineers. With this in mind, I recently appointed a task force to investigate the desirability of establishing a technical seminar for telephone engineers along the lines of the management courses offered at several of our universities. This action is taken in recognition of the ever-increasing need for engineering and management personnel to be versed in the broad technological aspects of telephony. The seminar, as presently visualized, would be designed better to equip experienced engineers and operating supervisors to discharge management responsibilities by discussions of new, as well as time-proven, techniques and methods of telephone engineering. The treatment accorded various segments of telephone plant will emphasize the economic selection of equipment and materials as they relate to rates, costs, and management decision. Technical subjects will form the basic agenda.

The program, under the sponsorship of the USITA, would be coordinated and presented by a participating college or university. In this respect several leading colleges have indicated enthusiastic response to tentative plans and have expressed a desire to participate.

In order for our Board of Directors to act intelligently in this matter a questionnaire has been sent out with a Member Letter to all of our member companies. The information contained in those questionnaires which have been returned is now being compiled and will be submitted to our Directors at our meeting here. You will be apprised of the results shortly.

What About The Small Company?

THERE IS one other matter of importance I would like to discuss with you and then I will have concluded. As we consider the challenges that lie ahead, I can hear some of you asking what about the small telephone company? We all know that the number of Independent companies has been shrinking fast these past few years, most of the decrease being in the ranks of the smaller companies.

There are now approximately 4,700 Independent telephone companies in the United States. Some 700 of these companies are large companies. The remaining 4,000 companies operate not more than 1,000 telephones per company. In fact, approximately 3,700 of these 4,000 companies, operate not more than 750 stations each. Some of the small companies that have disappeared as separate companies have merged with other small companies. But most of them have been taken over by nearby larger companies, and in most such cases the smaller company was in a distress situation; the large and rapid rise in costs and expenses had made it uneconomic to operate as a separate unit.

USITA
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1956-1957

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Editor's Note

The TE&M camera was busy at the recent USITA Convention. Several of the photos appear in this issue. Others will be published in succeeding issues.

Economic Problems

MOST OF THE troubles experienced by the small telephone company in the years immediately following the war were economic ones, but the problems that many of them now face are, I believe, of a different kind. Our industry is undergoing the greatest rehabilitation and modernization program of its history. The quality of all types of service is being raised to higher standards, and we are offering a variety of new services, including operator toll dialing which eventually

will become customer toll dialing. The problem of the small company, of course, is to keep up with the parade.

As a writer in one of our trade magazines recently pointed out — and I agree with his conclusions — the small company can remain in the picture only if it installs modern plant and equipment and only if it provides high-quality service.

And this may be easier than it sounds, because experience definitely has shown that if a company has good plant and good service it can obtain fair and adequate rates because the public has shown its willingness to pay good rates for quality service. All of which adds up to the fact that the small telephone company, including the locally-owned company, and the family-owned or individually-owned company, can remain a going concern and a prosperous unit of the telephone industry if it is able to do a service job.

In some cases it is a big "if." Through the help of state associations and the USITA new inspiration has been breathed into many companies. More mergers and consolidations, of course, are bound to come, if the smaller companies take the easiest way out.

So much for consolidations, personnel requirements, the challenges of change and progress. So much for our problems of growth and expansion. What more than I have already tried to indicate can we do about them?

Our Interests Lie Together

ABOVE and beyond all that I have said, we will need to work with each other in meeting these problems as we come in to our common heritage. How can we work more closely together? The answer is right here. Right in this room. Obviously, this is a role designed and made to order for the industry's state and national trade organizations. Here, in the United States Independent Telephone Association, we have the means and the mechanics, if you please, for checking our progress, for propelling our movement forward, for protecting our common interests, and for jointly facing up to the job that lies ahead.

To grasp the meaning of what our Association can mean to us, you have only to observe the attendance at this convention and consider the program which is before you. What your Association has done in the past year, can be done even better in the future if we only realize the potential of this instrument within our hands, our own USITA.

Lieut. General LESLIE R. GROVES discussed "The Economic & Political Implications of Atomic Energy" at the 1st session of the USITA convention.

The final USITA convention speaker was The Reverend JAMES W. FIFIELD, JR., pastor, First Congregational Church of Los Angeles.

Consider well what has been done about better legislation, better public relations, better employe recruitment policies. Consider well what we have been able to develop by way of sound advice on better accounting, commercial, traffic and plant practices, and our help for the small companies.

This is the mood in which, I hope, you will appraise all these things to be unfolded before your eyes and ears at this convention. It is all good; but it could be even better, if we only realize the immensity of the job ahead and the benefits to be gained from active participation in the work of this association.

USITA Answers Our Needs

I WAS impressed recently by the words of George P. Lamb, well-known Washington attorney and a recognized authority in the trade association field, who said:

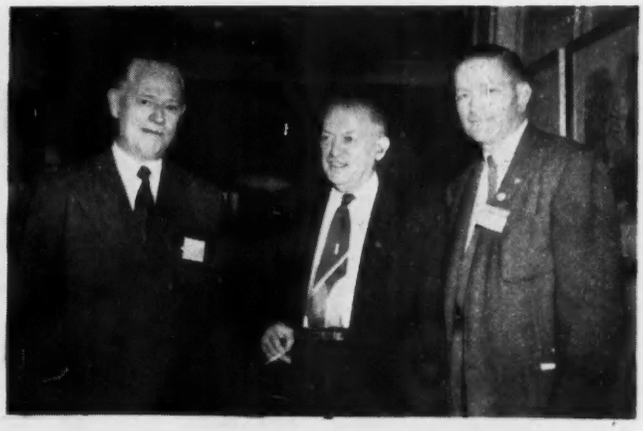
"Trade associations are essentially democratic in their organization. Dues are levied in accordance with ability to pay. Freedom of speech is an indigenous right. Knowledge is exchanged. The smallest company's executive can be and frequently is elected to the presidency. The exercise of democracy in its purest sense is found more in trade associations than in most other organizations in society.

"When democratic institutions are crumbling around us in the political world, when the paternalism of the American Government encompasses the welfare of the individual from the cradle to the grave, and when the very security of the country seems to demand procedures foreign to the freedoms we have known, the trade association stands as a powerful institution which can, if encouraged, help guarantee the continuation of democratic institutions."

The USITA meets all these standards enumerated by Mr. Lamb, and it stands today, as it has for nearly three-score years, as a bulwark of strength on the fighting line in behalf of our great industry. Its unselfish services will continue to help the industry go on to greater triumphs in its proud tradition of public service.

A wider knowledge of the activities of our national Association will help cement the feeling of mutual relationship among those who have faith and confidence in the private enterprise system — the system that has been so well exemplified since the turn of the century by the Independent.

Never has the Association been better geared for important service to its members than now. It has a large number of vital projects on its agenda. With the continued support and co-operation of Independent operating companies, manufacturers and suppliers, directory publishers, and trade magazines, and other firms which specialize in meeting the needs of our industry, we can go on to new goals. And, with God's help, we shall reach those goals! — *Adapted from a paper presented at the* 1956 *USITA Convention.*



THE TE&M CAMERA Photographed these groups of industry leaders at the recent USITA Convention — Top (l to r): HERMAN HAGEMAN, Lorain, Ohio; E. M. BLAKESLEE, Santa Monica, Calif.; GEORGE REICHERT, Washington, D. C.; LESLIE WARNER, Chicago; FRED NORRIS, New York City; GEORGE QUATMAN, Lima, Ohio; ED KREIGER, Everett, Wash. Bottom (l to r): HENRY CANTLEN, RUSSELL LOVELAND and CHESTER LOVELAND, all of San Francisco, Calif.; R. A. LUMPKIN, Mattoon, Ill.; HUGH BARNHART, Rochester, Ind.; DON CAMPBELL, Rochester, N. Y.; and CLIFF PEARCE, Riceville, Ia.

Highway Relocation Costs
And Need For State Legislation

By HUGH A. BARNHART*

WHEN THE 1956 Federal-Aid Highway Bill was approved by President Eisenhower on June 29, it contained provisions authorizing reimbursement to telephone companies and other utilities of 90 percent of the costs incurred in moving their facilities. This however was subject to a condition imposed by a so-called states-rights amendment, to which this report will later make reference.

This legislative victory was the culmination of several years of effort on the part of our Association, other affected utility groups, and the National Association of Utility and Railroad Commissioners. It could not have been accomplished without the cooperative activity of all groups. Back of their interest of course was the interest of the telephone subscriber or other utility user, who it was recognized would have to bear the burden of removal costs in the form of higher rates, in the absence of legislation.

The new highway program, approved by Congress and the President, is the biggest public works project in United States history. It will cost at least 50 billion dollars in the next 13 years — maybe more. Plans call for 41,000 miles of new interstate highways linking major cities, nearly 200,000 miles of state highways, and 508,000 miles of rural roads for a grand total of about 750,000 miles. This means that, at long last, the traffic jam may begin to break up.

Already the Department of Commerce and the Bureau of Public Roads have started work on planning a gigantic interstate highway system. Many states have announced they will meet federal requirements and build these dual lane roads. Next year will see construction of many thoroughfares getting under way.

The fight to have utilities reimbursed for costly relocations of their various facilities began four or five years ago. The Senate in 1955 passed the Gore bill providing for reimburse-

**Mr. Barnhart, chairman of the USITA Committee on Highway Relocation Costs and president of the Rochester (Ind.) Telephone Corp., presented this paper at the 1956 USITA Convention.*

DID YOU EVER

see 3 nicer PABX installations?

They're by the Middle States Telephone Company of Illinois

The equipment is by LEICH

Park Ridge and Des Plaines are two of Chicago's "growingest" suburbs. The many business firms moving to these towns provide great telephone revenue opportunities for the Middle States Telephone Company which serves these two towns.

Middle States chose the Leich Dial System as the most practical and efficient way to furnish modern PABX service to these new business customers shown here.

WHY LEICH?

The Leich Dial System with its all-relay operation is ideal for PABX installations. It requires very little maintenance, takes a minimum of space, operates quietly and efficiently for long periods without any attention.

With the Leich Dial System your PABX customers can have their choice of every desirable service feature. There's ample capacity for main exchange, foreign, information and tie trunks.

Attractive floor type or keyset attendant's cabinets can be furnished to customers specifications.

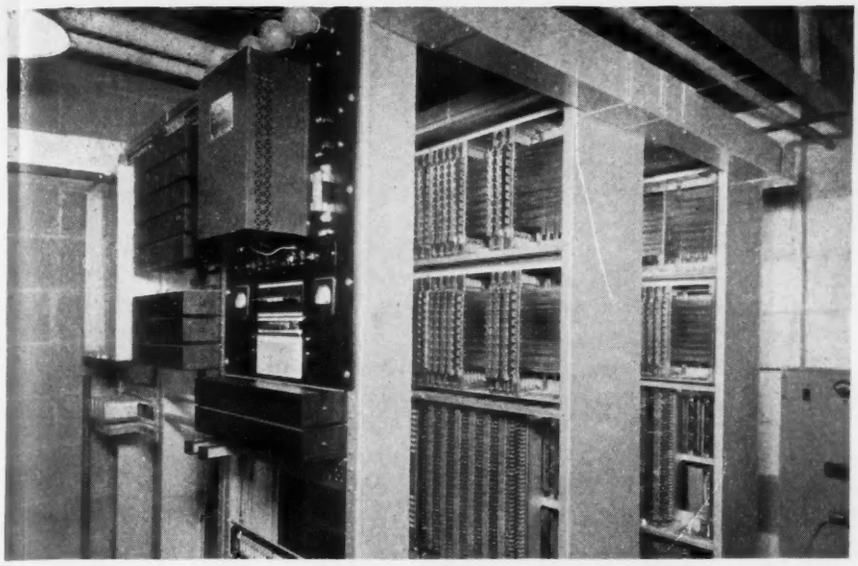
From the telephone company's standpoint, this is a practical investment. For with the Leich Dial System you can quickly and inexpensively add lines or links by jacking them in on the switchboard.

If there are any PABX prospects in your territory, we shall be glad to quote you on a Leich Dial System PABX.

There's no charge or obligation. Let's hear from you.

LEICH

LEICH SALES CORPORATION, 427 WEST RANDOLPH STREET, CHICAGO 6, ILLINOIS

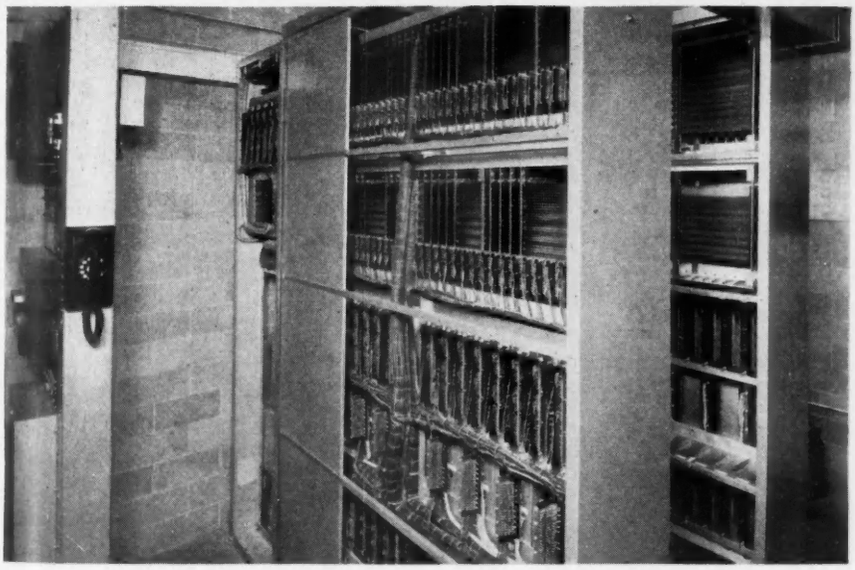


BUTLER BROTHERS

140 lines, 18 trunks, 16 links, single position attendant's switchboard. The Leich Dial System is wired for 200 lines.

GENERAL MILLS

100 lines, 24 trunks, 16 links, two position attendant's switchboard. Wired for 200 lines.



FASTEX DIVISION
ILLINOIS TOOL WORKS

100 lines, 14 trunks, 10 links, single position attendant's switchboard. Wired for 200 lines.

manufacturers of telephones, switchboards and related apparatus since 1907

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ment of facility removal costs on a 50 percent basis, subject to a limitation of 2 percent of the cost of individual projects. Later that year Congressman Fallon introduced a highway bill in the House with a similar 50 percent reimbursement feature. Due to many conflicting interests and the opposition of the trucking industry the bill in its entirety was defeated. Before meeting that fate, the House rejected — by a 75 to 125 vote — the reimbursement provisions. They had been vigorously opposed by the state highway commissions.

At the beginning of the last session of Congress, Congressman Fallon introduced House Bill 8836 contemplating 40,000 miles of super highways and providing that the government should pay 90 percent of the costs. To the surprise of the utilities, the reimbursement provisions were the same as those contained in the defeated 1955 bill. After hearings the bill as reported to the House became H. R. 10660 .

After two days of House debate, the House passed the bill with its 90 percent reimbursement provisions, but before doing so tacked on a so-called states-rights amendment. This amendment reads as follows:

"Federal funds may be used to reimburse the State for such (relocation of utility facilities) costs in the same proportion as Federal funds are expended on the project."

When the House bill in this form went to the Senate, the upper branch accepted the House version but retained the 2 percent limiting factor that was in the Gore bill passed by the Senate at a previous session.

However, when the measure went to a Conference Committee to reconcile the differences between the Senate and the House, the 2 percent limiting factor was stricken.

Therefore, in respect to the interstate system, 90 percent of relocation costs will be defrayed by the federal government. On all other highways where a 50-50 arrangement prevails reimbursement will be on that basis.

However welcome federal legislation is, we must not make the mistake of regarding enactment of this program as a complete answer to the highway problem and as automatically insuring reimbursement to telephone companies and other utilities of facility removal costs. Far from it!

In its report to the House and the Senate, the Conference Committee said: "It is the intention of the Federal government to assume its proportionate share of relocation costs *whenever the state allows such costs.*" Thus, federal reimbursement can be made only in states which now make a practice of it. There are 42 states which do not reimburse, which means that enabling legislation to implement the federal law must be enacted in all but six states.

It is clear, then, that before our ultimate goal can be reached 42 states must follow through and pass laws providing for reimbursement. State telephone associations, member companies, and individuals must start working immediately if they are to get this vital job done in the coming sessions of legislatures.

The USITA and its Committee on Highway Relocation Costs already has shown the way of sending out to all associations a suggested model law, which with any necessary changes can be introduced in the general assemblies of the states involved.

A big job at the state level remains to be undertaken. I am confident it can be done. By constant continued effort, organization, and hard work — the kind telephone people are noted for — reimbursement can be achieved for all telephone companies. *—Hugh A. Barnhart, Chairman, USITA Committee on Highway Relocation Costs*

Our Stake In A

Dynamic Merchandising Program

By L. D. DENSMORE*

IN FEBRUARY of this year USITA President Merle Hale, with the approval of the Executive Committee, appointed a "Merchandising Committee" consisting of Earle G. Bellamy of the Bellamy Telephone Co., Knoxville, Ia.; Carl D. Brorein, Jr. of Peninsular Telephone Co., Tampa, Fla.; Theodore S. Gary of General Telephone Corp., New York City; R. A. Lumpkin of Illinois Consolidated Telephone Co., Mattoon, Ill.

The duties of this Committee are: (1) To consider the general philosophy of Telephone Merchandising; (2) to consider the most effective methods and mechanics of selling telephone service; and (3) to develop recommendations relating to the general subject for the information and guidance of USITA member companies.

While there has always been more or less active sales promotion within the telephone industry, the present concept of Merchandising, in its broader sense, is a comparatively new field for the industry as a whole.

Within the past three years it became apparent to the Bell System that the more or less standard method of marketing its service left something to be desired. In their approach to

**Mr. Densmore, chairman of the USITA Merchandising Committee, presented this paper at the 1956 USITA Convention.*

The pictures on the opposite page were taken by the TE&M camera during the U-S-I-T-A Convention.

GENERAL TELEPHONE DIRECT
STROMBERG
FLOTROL
POWERS
HOLTZER-CABOT
five frequency
NX-1 BY-PATH
MULTI-LITE
BEAM HERE
UNIVERSAL
COMPUTER INTERCEPT

the problem they called in the merchandising leaders from the top manufacturing and retail establishments and experts from outstanding advertising agencies. They obtained the best information that could be found with respect to the subject of merchandising. They were able, with the advice and guidance of the experts, to evolve a program of merchandising with which most of you are generally familiar.

Industry Cooperation

OUR MERCANDISING Committee held its initial meeting in New York City as guests of the AT&T Company. We were given a full day's briefing by AT&T Co.'s top officials in the merchandising field. Many thanks to — J. W. Cook, vice president in charge of Merchandising, Robert C. Judy, Orla L. Moody, F. C. Smith, W. H. Doherty, John M. Shaw, and J. H. Page.

A wealth of information was made available to us with the assurance that the AT&T Company and all asociated companies of the Bell System would cooperate with and assist the Independents in the problem of merchandising. The results of market research and public opinion surveys conducted by the Bell System will be made available through the asociated Bell Companies. The Bell System merchandising program has been most productive and is being accelerated, however, they would be the first to deny that their program is either all inclusive or a final result, but they would say it is a start in the right direction and one that must constantly be revised and improved as experience is gained.

The impetus of getting the program underway within the Bell System was from the top down. We Independents must start with our highest levels of management and work the program down through the supervisory ranks to the employes who are going to make it a dynamic and effective effort.

In order to obtain first hand information as to how the merchandising program is being implimented by the Associated Bell Companies, representatives of our Merchandising Committee visited — Northwestern Bell, Illinois Bell, C & P Company of Virginia and Southern Bell.

These companies, along with all the other Bell System companies are making good progress in establishing modern merchandising methods. Each company visited was most cooperative in providing us with the details of the various phases of their respective merchandising activities. It would be most worthwhile if representatives of Independent companies will contact the Bell Company with which they have connecting agreements and ask for a full briefing on the vital subject of merchandising.

A Necessary Program

WHY SHOULD the Independent segment of the Telephone Industry spend time and money on a merchandising program, especially when we, in many locations, still have serious growing pains?

To begin with, we must realize: (1) A merchandising program is not a mere selling campaign; (2) it entails research to determine not only the needs and desires of the public but the potentials of the market for long range planning and development; (3) it encompasses the creation of new desires; (4) it includes expanding and enhancing the usefulness of the service; (5) it requires the use of various agencies in the promotion of these ends; (6) it requires the training of personnel to implement the program and conduct the sales work; and finally, but of vital importance, is a continuing review throughout all phases of the program to insure an increase in the net income of your company.

What Is Telephone Merchandising?

MERCHANDISING is a lot of things. It is knowing and anticipating the communication requirements of our customers. It requires that we fully satisfy those requirements and wants. It includes creating and satisfying additional desires. It involves the establishment of a service tailored to the needs of the user. It requires an understanding on our part, which we must pass on to our present and prospective subscribers, that telephone service from one telephone instrument in a home or business establishment is inadequate.

The communication requirements on farms are of the same general nature as that of business establishments. A farm is a business establishment. The greatest percentage of all service in the home and on farms today is from a single telephone instrument. Be it dial, common battery or magneto, the best that can be said for it is that it is as modern as yesterday.

Merchandising requires that we recognize the impact of the present highly competitive sales situation such as national promotion for a second TV set in the home. It contemplates that a second and third telephone in the home is easier to sell than the second family car. The two car family is not at all unusual these days.

Do all of the two car families have two or more telephone instruments? Is the telephone service which is being provided by your company adequate to meet the real needs of your subscribers? Is it comparable with the many improved and desirable adjuncts to a better way of life enjoyed by your subscribers? The intensity of our merchandising activities must be varied among the communities throughout the areas we serve. It must be on a controlled basis until we have cleared all unfilled orders and are able to add sufficient plant and the kind of equipment that will meet today's requirements.

A merchandising program can only be as effective as our ability to install and our manufacturer's ability to supply. There are over 400 items of telephone equipment and service that can presently be furnished to our subscribers. You are familiar with most of the items.

Who among you cannot implement and promote an active program of merchandising with respect to the sale of additional telephones in the homes and places of business of present subscribers? Note we say "additional telephone" not an extension. In a nationwide survey one out of six interviewed expressed a desire for a second telephone. Color is a tremendous adjunct to the sale of the second and third telephone.

Who among you cannot increase his revenue by the further expansion of outdoor paystation service? The public has generously accepted this expansion of service and we know from surveys that the potential just hasn't been reached. Is it good business? When one per cent of your stations produce eight per cent of your revenue it is good business to seek to saturate that potential. If your present paystation saturation is not

one per cent of your stations — it should be.

Merchandising entails research, promotion and training.

Research in testing markets and potentials will vary considerably with the size and location of your respective companies. A comprehensive survey in order to know the requirements and desires of the telephone using public could involve sampling of representative cross sections by outside firms, thoroughly trained in this type of endeavor. Some companies will doubtless very properly employ this method.

As for most of us — are we doing anything with the knowledge we now have?

Are we like the farmer who would not buy a book on "How to Farm" saying that to be truthful about it — he wasn't then farming as well as he knew how. Let's at least do as well as we know how with the knowledge we now have. As we progress most of us will make our own research survey by contacting our subscribers and learning from them their desires and requirements.

Promotion will consist of far more than using the usual — 'course of least resistance' — advertising media. The kind of promotion required will ofttimes be closely akin to public relations work. Promote equipment demonstrations and exhibits at Fairs and Club gatherings. Place equipment displays in merchants windows. With a good preventative maintenance and station inspection program, you not only have your foot in the door — you are in the house. What would these modern merchandisers give for such an opportunity.

We are unique and most fortunate in the telephone industry in that we have at hand a potentially effective sales force. Every telephone employe from the Manager to the Janitor is a potential salesman. We have only to train them. We need to equip them with information as to service available and rates and charges and then give them help as required on methods and techniques.

There are numerous sales aids and training aids available. Some firms specialize in training programs. Don't sell short the ingenuity and resourcefulness of your own organization.

Again we want to point out that the impetus of your merchandising activity must be from the top down right through every level of supervision and with proper recognition of results. Some of the most effective sales work accomplished in the Bell System is by their plant forces and that's not just installers but repairmen and test desk men as well.

"Time For Raising Our Sights"

THE TIME has come when basic telephone service is just not enough to adequately serve or meet the needs of the present day customer. We must raise our sights to a "complete home" service with additional stations (to meet the evergrowing needs of the family and in color to meet the desires of the housewife) equipped with necessary keys, bells and cords to fit the floor plan. Isn't it about time that we sell an all inclusive package that contains the kind and quantity of service necessary to meet present needs.

Our main problem is to show present and potential subscribers how to utilize telephone service fully to their profit and advantage. We must make them aware that the service from a single telephone is inadequate to meet their needs. We must make our service as modern as tomorrow if we are to keep abreast of the rapid forward strides being made by industry and business with automation.

Telephone service is vital to the nation's progress . . . to fulfill our obligation as an industry a comprehensive and realistic Merchandising program is completely necessary. We have a real job to do but the rewards are great.

Your Merchandising Committee has a recommendation, however, it is in the form of an admonition.

Unless we aggressively pursue a dynamic telephone merchandising program we are not only shortsighted to our own industrial future but are remiss in adequately providing a desired and vital service to the public.—*USITA Merchandising Committee, Col. L. D. Densmore, chairman; Earle G. Bellamy; Carl W. Brorein, Jr.; Theodore S. Gary; and R. A. Lumpkin.*

"The Industry's" National Advertising Program

DRAWING upon their own personal experiences over the past few years for many evidences of the steadily growing recognition the Independent telephone industry, a panel consisting of *Carl D. Brorein*, Tampa, Fla., *C. C. Pearce*, Riceville, Ia., *H. M. Stewart*, Cornelia, Ga., and *Allen R. Stacey*, Sunland, Calif., thoroughly discussed the Independent telephone industry's national advertising program at the final session of the USITA Convention on October 17.

Presenting the report of the USITA Committee on National Advertising, Chairman Brorein told the convention the committee has kept in mind this definition of its task:—

"To further the growth and prosperity of the Independent telephone industry and its individual companies through (a) information disseminated by recognized media to the general public, to representatives of government, and to financial institutions, and (b) to bring about a more complete understanding of the importance of the Independent telephone industry to the American communications system."

"This purpose is a worthy one," he said. "National advertising was simply a new way to get at this purpose — when we first considered it almost four years ago. We have since learned

to the man who needs

Here's an idea! Next time you need a whale of a lot of supply items all at once, order them from Automatic Electric. Almost every day, our supply people get orders like that for 25 or 30 different items, fill them right from stock, and ship them the same day!

We think you'd like that kind of service.

Particularly because it means you get everything in *one shipment.* There's no "back ordering"—no fuming over extra forms—no unnecessary freight "minimums" to pay. And the best part is you can roll up your sleeves and start right to work, 'cause you've got everything you need.

Automatic regularly stocks over 2500 supply items, ready for your orders. We've filled orders, right from stock, for as many as 190 different products. Whether you want one item—or 100—send us your order. We'll be delighted . . . and when you get it, so will *you!*

Automatic's 5 warehouses:

Chicago 7, Ill.
George Ferguson
1033 W. Van Buren St.
HAymarket 1-4300

Portland 10, Ore.
Ed. J. Chok
2360 NW Quimby St.
CApital 3-7244

Kansas City 8, Mo.
Gene Martin
2021 Main St.
HArrison 1-4720

Richmond 21, Va.
"Mitchie" Hester
2915 Moore St.
Tel. 6-9280

Johnson City, N. Y.
Fran Batcher
158 Corlis Ave.
Binghampton 7-8507

AUTOMATIC ELECTRIC

ORIGINATORS OF THE DIAL TELEPHONE

Is everything... ALL AT ONCE!

a great deal more about it and have seen for ourselves what advertising can do. What we have learned and observed has given us great and growing *confidence* in the soundness of this program — and in the wisdom of the early decision to pursue it."

Stating that an active program of national advertising has been in progress since May, 1954, Mr. Brorein said the magazine advertisements are aimed at helping operating companies obtain and keep *adequate rates for service.* This they do by communicating the facts of the industry's size and composition, the quality of its services, its record of growth and how it contributes to community development, and its expanding future under the tenets of Free Enterprise.

"These facts are not broadcast wholesale," he emphasized. "They are carefully placed before a particular group of people. They are published in magazines we *know* are read by federal, state, and municipal regulatory officials, men in local, state, and municipal governments, legislatures, journalists, civic leaders in your communities and throughout the nation — and by an especially influential segment of the 'unclassified' general public . . . .

"Secondly, our advertisements are aimed at helping us and our companies develop *present* sources of growth capital, and uncover *new* sources. They do this by communicating the importance of Independent companies to the nation's growing network of local and long distance telephone service, their sound position and great growth potential — the *opportunity* they represent. And, once again, they tell this story to some very important people — to investment counselors and brokers, to insurance companies, to bankers and the executives of lending institutions, to the financial press, and to a broad cross-section of industry. From many of the smaller companies on up to the large Independents, we have heard again and again of the good work our program is doing on this vital growth capital front. Today, when money is tight, this is extremely important to all of us . . . .

"And, finally, these advertisements are aimed at gaining for our industry favorable, positive, lasting *recognition* by the public at large, as well as prestige for our companies and their employes."

CARL D. BROREIN, chairman of the USITA Committee on National Advertising

Emphasizing that the advertisements achieve these goals by implanting in their readers' minds the image of a large, vigorous, growing source of vital service of benefit to every citizen, regardless of where he may live or how he makes use of the telephone in his daily life, Mr. Brorein stated that "to this end the messages are aimed at the *hard core of public opinion* — the thought leaders in your own communities and every community in the nation. Through these influential and articulate men and women, the Independent telephone story will spread."

"In an effort to do this job even better," he said, "we recently adopted a completely *new* series of advertisements at a meeting with the Agency in May of this year. You have seen the first two in this new series by now, I am sure. Stressing the theme, *'Independent Telephones Help You Reach All America,'* they began appearing in August in *Time* and *U. S. News & World Report,* as well as in *Telephony* and *Telephone Engineer & Management.*

"May marked the 'birthday' of our national advertising program. It found us facing the necessity for an adjustment in the over-all advertising budget. This reduction was made in order to free needed dollars to meet certain expenses incurred in other important USITA projects. However, the advertising program's fundamental character, fortunately, remains unchanged."

In concluding his report, Mr. Brorein stated that in two years the program has been in effect it has brought the Independent telephone industry to the attention of a large part of the American public.

"From now on," he said, "the program should grow as the industry grows, with accumulated beneficial results becoming more and more apparent, thus contributing its share to the continued success of each of the industry's 4,700 Independent companies. The Association's National Advertising Committee again expressed its confidence in the program at a meeting on September 25 when it voted unanimously to recommend its continuation through 1957 . . . ."

A New Concept of The Industry

PANELIST *C. C. Pearce,* Farmers' Telephone Co., Riceville, Ia. emphasized that at first glance it would seem that an industry with so many customers and such a tremendous investment would stand out and be recognized as one of the leading businesses in America.

"Quite the contrary has been true," he said. "In days past a visit with a fellow passenger on a train or plane usually revealed that he had never heard of the Independent segment of the communication industry. Rarely did the high school or college graduate give consideration to the Independent telephone industry when looking for employment, as he was interested in working for an industry that had prestige, and unless he lived in a town served by an Independent, he perhaps did not know that our industry existed.

"In approaching the local bank, or other financial institution, for capital, the local manager of the Independent telephone company had to do a complete selling job before consideration was given to a loan as the industry was not recognized in financial circles. As the operator of a small unit of this business, I have found every one of these problems to be true.

"The national advertising campaign has been looked upon with favor and, while all institutional advertising is an intangible thing, it seems that the program is gradually helping the smaller companies of our industry. I am aware that the large, group operating companies really make this advertising program possible and my contribution while proportionate in the industry is like a 'widow's mite' in comparison to the larger companies.

"During the past two years we have told the story of our great industry to millions of Americans through the

pages of *Time, U. S. News & World Report* and *Farm Journal*. New minds have been exposed to our messages and others reminded continually of our industry's progress. The program recently has been given new momentum through the development of a tie-in program which distributes *free* over 5,000 newspaper mats every two months. Thousands of bill inserts likewise are distributed without additional charge to members of USITA.

"To our satisfaction, the Agency now has shown how the nature of the new magazine series, plus a few changes in the production of the mats and inserts, would make it possible for the Association to pursue this *free* method for little more than the cost of the old 'for sale' method. So far, response to the new method has been excellent . . . ."

Explaining that tie-in advertising is a method of proved effectiveness used regularly by scores of successful advertisers, Mr. Pearce stated that it adds thousands of readers to the national circulation of vital Industry messages.

"It concentrates these messages in *your* communities — over *your* company's name," he said. "To the large number of people in your area who see *both* the national and local advertisements, tie-in advertising means *double* impact — provides *direct* association of your company with advertisements in leading national magazines. And, all the material you need for gaining this valuable recognition for your company and your industry is *entirely free*. Added to this is the very important local advertising program now carried on by over 1,000 small telephone companies through their subscriptions to Telephone Advertising Institute services.

"Through this combined program of information a new concept of our industry is taking place in the minds of the American public. We are becoming an industry with prestige. Employes begin to feel they are a part of one of the really important industries of America and new employes are more easily attracted as needed. In financial circles we are certainly becoming recognized as an important, sound link in our economy and more purse strings have opened to our industry."

Stressing that although the National Advertising Program has hardly been in existence long enough to measure its true effectiveness, Mr. Pearce stated that the program is highly meritorious and should be rewarding to the industry.

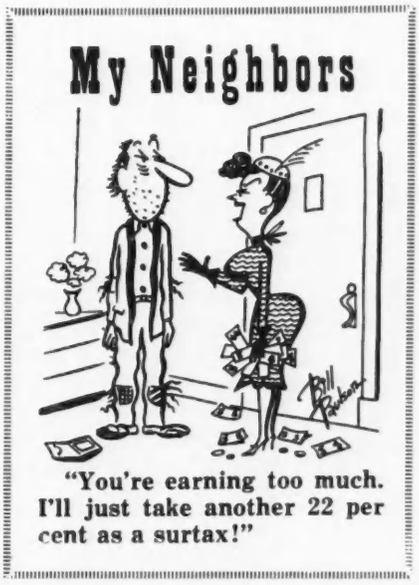
"Every small Independent telephone property has an added value that did not exist previous to the advent of the program," he said. "The Independent telephone industry is having a tremendous growth and with growth comes new problems — the need for new capital and new employes, and the need for public confidence in Independent telephony. Our National Advertising Program, with a well-planned local tie-in, is the oil that makes the wheels of Independent telephony operate more smoothly . . . ."

Winning Friends

LOOKING at the present day concept of advertising, H. M. Stewart, Standard Telephone Co., Cornelia, Ga., defined advertising as: "The Conditioning of the Mass, or Public, Mind."

"It is a means of winning the favor of people toward our firm and our product," he said. "In short, it is the age-old pride of the individual lifted to the corporate level. As individuals we all want to be popular, so the men spend upwards of a total of three days out of each year shaving, women spend longer painting their lips, faces, and finger nails, and young people adopt outlandish fads.

"We try to make people think well of us by being seen in the right places, and by keeping our front lawn neatly trimmed and the garbage can out of public view. At the corporate level this inherent sense of pride is translated into attractive packages for our product, highly trained sales personnel, a progressive public relations policy, and an aggresive *advertising* program. Through these instruments, and more especially the last named, we try to 'win friends and influence people."



"You're earning too much. I'll just take another 22 per cent as a surtax!"

Expressing his belief that the advertising program being carried on by the United States Independent Telephone Association is "reaching the people in our towns," Mr. Stewart said, "I find it is helping to bring about a more enlightening and cooperative atmosphere in which to operate."

"I have used the word 'helping' advisedly," he stated, "since we do not depend on the nationwide program alone. It would be like eating off a one-legged table. The national program is implemented by a carefully planned and timely schedule pitched at the local level. We in our company are spending upwards of 50¢ per station per year in our overall paid publicity program. Last year it was 55¢.

"Most of the tangible results recited by Mr. Brorein and Mr. Pearce are evident in our area. To these I will add this further statement: Over the past months and years, we have noticed a gradual but marked change in the climate and attitude of our customers. We have gained considerable prestige and enjoy a higher degree of public confidence. In short, the public mind seems much better conditioned. We know the national advertising program, coupled with our own publicity policy, has had much to do with bringing this to pass . . . ."

The "Stacey Poll"

COMMENTING upon the importance of advertising as viewed by companies small and large on the Pacific Coast, *Allen R. Stacey*, Sunland-Tujanga Telephone Co., Sunland, Calif., reported on a Poll of the Pacific Coast telephone industry.

Mr. Stacey stated that each management executive was asked the following questions:

(1) *In your recent financing efforts have you felt any benefits from the USITA Nationwide Advertising Program?*

(2) *Have your public relations at*

the local exchange level been effected by the advertising program?

(3) *Have your stockholders commented upon the advertising program?*

(4) *Has the advertising program had any effect upon your relationship with employes?*

(5) *Does your company use the tie-in advertising mats for local advertising purposes?*

(6) *Do you personally see the advertisements in Time or U. S. News?*

(7) *What improvements do you suggest for this advertising program?*

"The results of the 'Stacey Poll,' he said, "may be summarized in one sentence — '*Each and every one of the executives of the telephone companies, ranging in size from* 1,600 *stations to* 800,000 *stations, and each of the other interested persons expressed the opinion that the Nationwide Advertising Program was beneficial for the Independent industry*'."

As proof of the advertising program's value to Independents, Mr. Stacey presented the following quotation from answers given by operating executives:—

(1) "*My dropwire manufacturer* tells me of going to a New York bank for a short term loan, describing himself as a manufacturer who supplied dropwire for much of the Independent telephone industry, and being asked by the bank 'What in the dickens is the Independent telephone industry?' This year the New York bank knows more about the Independent industry."

(2) "*There may not be a correlation* but recently my financing problems have been eased considerably.

(3) "*Prior to the time of the National Advertising Program* our long term lender had considerable sales resistance to our requests for additional money. Suddenly he had a change of heart. This may have been coincidence and it may not have been."

(4) "*As a result of reading these ads* the general public has contacted our company directly asking for stock when it is issued again."

(5) "*My subscribers now realize* that there is such a thing as an Independent telephone industry."

(6) "*Our public now knows that there is someone else* in the business besides Bell System. Before this campaign our people had the opinion that the only telephone company in California was the Pacific Tel."

(7) "*We have had people come into our office* and say that they didn't realize that there were other companies like us in the country."

(8) "*Our public has said to us in the past* that it was only a matter of time until we would be bought up by the Bell System. Now they no longer feel that way."

(9) "*Several of our stockholders* have seen the ads and commented that they should have picked up more Independent company stock in earlier years."

"Now you have heard comments from the Pacific Coast," he concluded. "On behalf of one California company, may I say our advertising program is very worth while. Our national association is to be commended. *Let's keep at it.*"

Traffic Conference Report

WITH H. J. Kleinhammer, USITA Traffic Committee Chairman presiding, the USITA Traffic Conference, held on October 16 in the Astoria Room of Chicago's Conrad Hilton Hotel, dealt with various phases of human relations. The three principal topics on the program were: "Job Interest Stimulation," by Mrs. Winnie B. Burnett, Brownwood, Texas; "Employe Relations As A Means Toward Productivity and Moral" by A. S. Hann, Ann Arbor, Mich.; and a skit "Demonstrative Interview," by Mrs. Phyllis Ziegler, Marion, Ohio, and N. R. Weston, Portsmouth, Ohio.

In choosing "Productivity" as the theme for the conference, the Traffic Committee recognized the rapid technological advancement being made in provision of equipment and facilities and the fact that operating methods have been so streamlined the industry is approaching an era when the challenge for greater productivity will be with human limitations. The Traffic Conference emphasized the "Productivity" theme from the angles of Employe Relations, Job Interest Stimulation, and a practical demonstration of the art of dealing with employes.

Mrs. Ziegler and Mr. Weston gained wide acclaim through their presentation of the skit entitled "Demonstrative Interview."

In their skit, Mr. Weston and Mrs. Ziegler demonstrated the techniques to be exercised in a personal interview with an employe. They illustrated the "do's" and "don'ts" of

dealing with peoples and acted out some of the methods discussed by Mr. Hann.

Job Interest Stimulation

STRESSING that "job interest must be stimulated in order to produce good technical job performance," Mrs. Winnie B. Burnett, of the Southwestern States Telephone Co., Brownwood, Texas, told the Traffic Conference that frequent changes in operating methods and procedures, should be communicated to the operating forces in such a manner that they will present an interesting challenge.

"In order to improve the technique of switchboard operating," she said, "and to stimulate job interest, our company uses a series of instructive operating programs which deal with pertinent problems or with technical changes. We call these 'Traffic Operating Programs' — another company may call them 'Job Stimulation Programs,' but whatever they are called, they are meant to *tell* something. When new T.O.P. inserts are received, we study them and after careful analysis, instructions are written, stating the new procedures in simple terms and when necessary, adapting them to company policy. In our company all programs concerning practice changes are issued by the General Office Traffic Department, and they deal with particular ideas in more detail than the Traffic Operating Practice describes."

Stating that considerable advantage can be derived from such programming, Mrs. Burnett said these basic facts must be observed:

(1) The instructions must be specific and clear.
(2) They should be constantly accessible to all employes.
(3) They must be applicable to situations and equipment.
(4) They should be clearly explained and, when possible, demonstrated.
(5) They must be understood, accepted and followed by all employes.

"It is of utmost importance that we realize the necessity of a mutuality of interest between management and employe," she said, "or maintaining job interest in programs becomes an almost impossible chore. Management and employe have much more in common than they have in conflict, so by working together as a team, thereby giving better service to the customers both have more of what they are striving for. But bringing about that type of understanding is managements' responsibility and it takes an *effective* two-way system of communications. That is *transmission* and *reception* of instructions, ideas, policies, etc."

Traffic Conference Speaker Mrs. WINNIE BURNETT is traveling chief operator for the Southwestern States Telephone Co.

Pointing out that management must realize with an increasing number of employes and more technological operation, the system of communicating instructions must be formalized, Mrs. Burnett described the following pitfalls of poor programming:

(1) *Management's own thinking can be what is wanted and needed.*

"Remember," she said, "that a group of employes and supervisors working together enthusiastically for the same purpose is no accident. It doesn't just happen! It is the result of management spelling out clearly its objectives and policies, communicating them effectively and then selling the employes on their *'worthwhileness'*."

(2) *Poor choice of expressions used in instructions.*

"Too often," she warned, "we fall into the lazy habit of using general expressions — the *trite kind* — such as 'The customer is always right,' 'Courtesy, accuracy and speed,' etc. These slogans, while everlastingly good, can become meaningless and foggy with constant repetition, and certainly fail to stimulate new enthusiasm in the job. It is a wise person who can choose words which illuminate the meaning, thus achieving the desired results; for the *words* stimulate the response."

(3) *Failure to realize that actions speak louder than words.*

"It must be remembered," she said, "that while the management may fail to evaluate the employe, the employe never fails to evaluate management. We have learned the hard way that the American worker will do more and better work under *leadership* than he will under *drivership*. Never forget that *leading* is *doing* what you want your followers to do."

(4) *Another common weakness is the lack of careful thought given to the selection of supervisory personnel.*

"Since job stimulation and training programs," Mrs. Burnett said, "are usually given the employe by her immediate supervisor, much thought and careful training should be given to the people who are selected to fill such positions. The human factor in telephony is often overlooked. We have detailed training programs and on the job individual instructions for the use of the expensive and complicated equipment; yet we are often guilty of putting people in charge of others without proper information about the most expensive and complicated piece of equipment used in rendering telephone service — the human mechanism."

(5) *Failure to use well-known methods to put across effective and stimulating instructions and ideas.* These must be communicated from the *General Office* to the *Division* (*or District*) — to the *Chief Operator* — to the *supervisory force* — to the *operating force* in such a manner that uniform understanding is achieved without loss of the interest value.

"Go through the proper lines of organization," she warned. "Don't skip around — if you are a Traffic Superintendent, don't by-pass the Division (or District) office to reach the Chief Operator or if you're the Division Manager, *do* go to the Chief Operator — *not* to the Service Assistant. And this takes purposeful planning and adherence to be effective . . . ."

Defining "day-to-day effective supervision" as face-to-face supervision of the people who are in personal contact with the operators, mainly the Service Assistants and Chief Operators, Mrs. Burnett stated

that it is of primary importance that these people take an active interest in their work and have a personal pride in the achievement of company objectives before they can stimulate and maintain job interest among the employes under their immediate supervision.

"And above all," she said, "they must give each employe fair, considerate and impartial treatment and supervision. The Chief Operator should interview and counsel with her employes on frequent occasions. This simply means being able to *talk* effectively and *listen* sympathetically. Since most Chief Operators have to do a lot of instructive talking they may find it difficult to develop the art of skillful listening and diplomatic questioning. But this art can be acquired with diligent practice — *and a basic understanding that human beings are created equal.* Among the many important things to *do* when interviewing or counseling, the most necessary one is to *gain* the confidence — *make a friend.*"

Pointing out that observations and discussions are necessary in the training and development of operators, Mrs. Burnett emphasized that the observations, taken at spaced intervals by the Service Assistant or Chief Operator, will show the need of additional individual operator instructions and review.

"It is most important that the observer's actions be based upon a thorough knowledge of operating practices," she said. "This insures helpful suggestions in the maximum use of completion opportunities with a minimum of equipment and operator time. These observations offer a wonderful way to increase the operator's personal appreciation of the quality of service being given and gives first hand knowledge of need for individual improvement. It also represents to the entire operating force a genuine interest on the part of management in the overall program of improved service."

Describing the employe meeting as one of the best *and most* economical media for communicating managements' ideas to employes in an interesting manner, Mrs. Burnett stated that a carefully planned and skillfully led meeting is a most effective and economical method to achieve unity of purpose and action between management and employes.

MRS. PHYLLIS ZIEGLER, general traffic analyst, General Telephone Co. of Ohio, during "Demonstrative Interview" presented at USITA Traffic Conference. During the interview Mrs. Ziegler and N. R. Weston, Portsmouth, Ohio, demonstrated techniques to be used in a personal interview with an employe.

"While meetings offer the best possible means of getting the same understanding of information to everybody at the same time," she said, "the mere fact that a meeting is held is certainly not enough. A meeting must be effective. We have all attended meetings which were not only a waste of time but actually hurt the purpose. But, properly held and competently led, they serve to build a unity of purpose and action . . . . "

In closing, Mrs. Burnett made the following suggestions to those who would like to improve or establish employe meetings:

"(1) *The first thing the leader must do is to convince himself that he can do it.* It is most certainly not necessary to be a public speaker to be able to conduct a good employe meeting. Just be sure that you know your subject and that your speech is audible and intelligible. Don't fail to plan the meeting, for planning gives self-confidence, the *best antidote* for stage-fright.

"(2) *Plan meetings at a regularly established time.* Have a maximum time limit and adhere to it. When the meeting has fulfilled its purpose, adjourn it promptly, whether it has been 10 minutes or an hour. Leave time for questions.

"(3) *Conduct the meeting on company time — not the employes.* Remember that it will fall short of the goal if resentment is incurred by imposition.

"(4) *Plan the meeting — make a written outline to follow.* Arrange the items to be discussed in some logical order. The expenditures of time and man hours justifies a carefully thought-out plan. This is an excellent opportunity for any supervisor to win confidence by demonstrating efficiency and leadership.

"(5) *Arrange for a quiet and comfortable place which will be free from interruptions.*

"(6) *Keep the discussion on the subject at hand.* A good mediator must learn to 'coral' the strays, and diplomatically lead straying conversationalists back to the fold.

"(7) *Keep the meeting positive in tone, let the 'Do' attitude prevail — never the 'Don't'.* The meeting is no place for reprimands or disciplinary measures, singular or wholesale.

"(8) *Above all, don't dominate the meeting this is not the time nor place to impress the listeners with your oratory.* Too many people have the irritating 'I—My' habit. If you are going to do *all* the talking why not just write it? State the purpose of the

meeting, then encourage and, if necessary, lead discussions on the subject. And *don't let some eager beaver* dominate the discussion. There's one in every crowd.

"(9) *Do have in attendance only people who have a general or common interest in the subject.* If the meeting only deals with traffic problems, have only traffic people present.

"(10) *Begin and end all meetings on an optimistic note — one of encouragement and justified praise.* Remember that good will and wholehearted enthusiasm are not the product of force — they come from within, the result of effective and inspiring leadership. These things — good will — enthusiasm, and cooperation — are infectious, and to insure the spread of this desirable infection through-out all work levels, the germ must emanate from management."

Employe Relations As A Means To Productivity And Morale

ARTHUR S. HANN, assistant to the director, Bureau of Industrial Relations, University of Michigan, Ann Arbor, told the USITA Traffic Conference, productivity means quantity and quality of output.

"In the case of operators," he said, "quantity means handling a sizeable volume of calls in relation to the requirements of her particular assignment. In regard to employes other than operators, quantity means turning out a substantial number of units of product or service in relation to the realistic standards of output which can be expected in terms of the conditions under which the job is performed."

Discussing quality of operators' output, Mr. Hann emphasized that quality is attained when the operator is handling her calls in such a way that — (1) both customers and other operators with whom she must coordinate are satisfied, (2) other operators are stimulated favorably to admire and to want to imitate her performance, and (3) customers feel like thanking the operator or complimenting the company.

"In the case of employes other than those associated with switchboard operation," he said, "quality means performance that meets or exceeds high but realistic standards in terms of the conditions under which the work is performed . . . ."

Stating that good morale means employe satisfaction resulting from the work situation, Mr. Hann commented — "We need to determine whether good morale is a worthwhile objective," and suggested that the following standards be used to judge the desirability of morale:—

"(1) *It's worthwile* if it cuts down the turnover of desirable employes.

"(2) *It's worthwhile* if a satisfied and enthusiastic worker gives better performance.

"(3) *It's also worthwhile* because happy and enthusiastic employes provide part of the climate within which our own respective companies, and within which business operates.

In conclusion, Mr. Hann made the following suggestions for creating employe attitudes which will lead to productivity and good morale:—

"(1) First of all, the supervisor should find ways and means for orienting the employe to the overall importance of the work he is doing and how it fits into the scheme of things in the organization.

"(2) Be sure you have established or at least know what constitutes good workmanship, both quantity-wise and quality-wise, in the jobs you are trying to supervise. In other words have some standards — whatever kind are appropriate in terms of the particular job.

"(3) Provision must be made to let the worker know what these standards are. Furthermore, he must know what constitutes successful performance in terms of his own job.

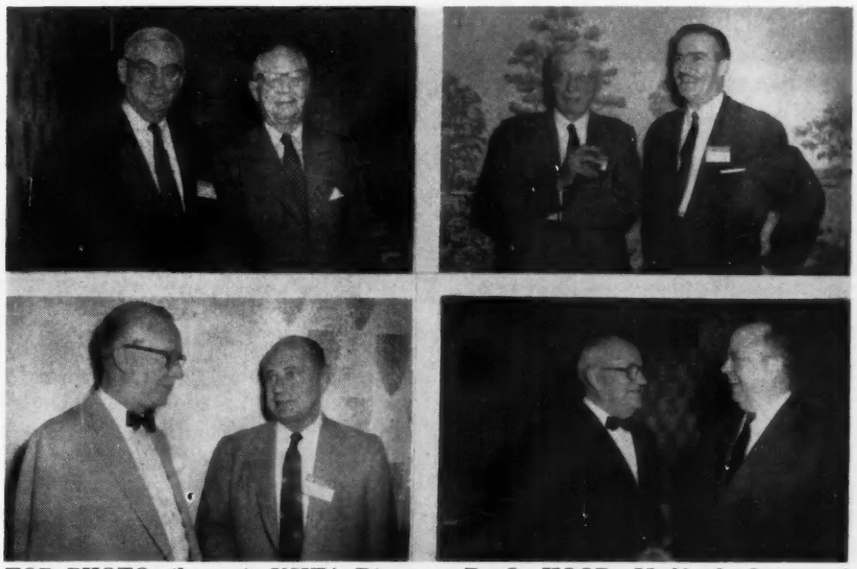
"(4) The supervisor must be sure the worker knows how he is meeting the recognized standards of performance. Most of us find it difficult to make an objective evaluation of our performance, but especially so if the standards are more qualitative than quantitative. Consequently, the supervisor should arrange for periodic systematic reviews of the employe's performance and for a full discussion of her job. Such a discussion of course, should be friendly and constructive. Naturally, provision for periodic reviews should not preclude discussions about particular aspects of performance.

"(5) Recognition for praiseworthy performance should be given when due, and both financial and nonfinancial means should be employed when appropriate. Naturally, pay increases should be given for meritorious performance.

"(6) Give the employe an opportunity to participate by offering his ideas. All of us feel more like part of the organization if we are consulted, or at least have a chance to offer our opinions about things that effect our work."

Editor's Note

The TE&M camera was busy at the recent USITA Convention. Several of the photos appear in this issue. Others will be published in succeeding issues.



TOP PHOTO (l to r) USITA Directors D. O. HOOD, Medford, Ore., and ALDEN HART, Kansas City, Mo.; JOHN BOYLAN, Rochester, N. Y.; "HAM" CUNNINGHAM, Albany, N. Y. BOTTOM PHOTO (l to r): USITA Director of Information LEON ROBERTS, Washington, D. C.; CARL BROREIN, USITA director and treasurer; USITA Director ANDREW J. SORDONI, Wilkes-Barre, Pa., and USITA President-elect DONALD C. POWER, New York City.

Plant Conference

Emphasizes New Developments

HERMAN P. SIEBKEN, chairman of the USITA Plant Committee, presided at the USITA Plant Conference at the Conrad Hilton Hotel, Chicago, on October 15 and presented an outstanding program which continued the high goals set by previous meetings.

Chairman Siebken started the conference with his report on activities of the Plant Committee. Praising committee members, who spend a great deal of time in the interest of the industry, Mr. Siebken pointed out some of the more important aims and accomplishments of the committee during the past year.

Mr. Siebken reported that C. E. Howden, Rochester, N. Y., has replaced G. W. Miller on the USITA Plant Committee and that George B. Quatman, Lima, Ohio has been added as a new member. At a meeting of the USITA Plant Committee in Chicago in May of this year the following directorships of subcommittees were designated:

Cable and Safety, W. M. Driggs, New York, N. Y.

Central Office and Station Equipment, George B. Quatman, Lima, Ohio.

Pole Lines, Conduit, and Wire Plant, George P. Barney, Lincoln, Neb.

Transmission Testing, Inductive Interference, and New Techniques and Equipment, B. C. Burden, Lincoln, Neb.

Toll Dialing, Radio, and Carriers, F. S. Barnes, Jr., Rock Hill, S. C.

"During the year," Mr. Siebken said, "committee members have been active on quite a number of matters brought before them. Last year George Barney began work on standardization of color codes and tracer designations on drop, bridle, inside, distributing frame, and ground wires. The committee as a whole approved the results and recently recommended to the Board of Directors of the USITA the adoption of a Recommended Code Identification Scheme for Telephone Wires. We feel this code will be of assistance to all Independent telephone companies and our industry's manufacturers. The booklet covering Outline of Dial Conversion Procedure for Small Companies, which was prepared by a special committee under G. W. Miller of Rochester, N. Y., was distributed to member companies by our USITA office in February of this year. It has excellent suggestions for saving both time and money."

Mr. Siebken stated that some of the Plant Committee members were called upon for help on other specific committees. Three members served on the "Special Committee for Reporting and Accounting for Station Equipment." Cooperating with members of the USITA Accounting Committee and a force from the A-T-&-T Company, the views of the Independent industry were presented before the Federal Communication Commission.

"One of our members, Bill Driggs of New York," Siebken said, "represented our Committee on matters brought before our USITA National Defense Committee. Likewise, Mr. Driggs represented us at an REA symposium on plastic wire and cable. Furthermore, our members have been asked to review certain proposed revisions of the National Electrical

Code. At various times letters have been directed to the committee dealing with plant matters and have generally been handled by the director in charge of the subcommittee or by the committee as a whole."

In closing his report, Mr. Siebken stated "the Plant Committee at all times is ready to answer any questions or problems which may be called to its attention to the best of its ability. Any requests should be sent either to the chairman or the directors of the subcommittees. On major requests, we feel that such matters should be discussed by the committee as a whole, and if agreed upon, proper recommendations or suggestions will be made. . . . "

Use of Line Concentrators

FRANK D. REESE, chief engineer of the General Telephone Co., of Pennsylvania, Erie, told the Plant Conference the line concentrator is "an old device which has only recently taken forms practical enough to allow it to emerge on the scene with promise of outside plant efficiencies in certain applications."

"The concentrator," he said, "usually consists of two units, one mounted in the central office (called the central office end unit) and the other in the vicinity of the subscribers to be served (called the subscriber end unit). It is a form of switching equipment which may be electronic or electro-mechanical. Its operation depends on the probability that for a given number of telephones, only a certain fraction of them will be used at one time; and therefore only this fraction of the number of circuits need be furnished, if there is a means of transferring these circuits to the telephones in use. Or, said another way, the concentrator permits a small number of line pairs to serve a large number of subscriber lines by pooling the idle time of all the lines so concentrated."

Emphasizing that a concentrating system is not the answer to all outside plant problems, Mr. Reese pointed out that its application must involve subscribers having their primary calling interest to the community in which the central office equipment is located rather than among themselves; since two trunks are involved in a call between two subscriber lines on the same concentrator system.

H. P. SIEBKEN,
Chairman,
Plant Committee.

"Also the line concentrated," he said, "should be of high grade, preferably one, two or four-party, so that the use of the common trunk by each line is not too great. It should be recalled that the concentrator merely shares the idle time of the subscriber lines associated with the system, and if the lines are extremely busy the degree of concentration realized will not be great."

According to Mr. Reese, the line concentrator fits somewhere in between low cost physical line facilities, such as multiple distribution wire for comparatively short distance, and subscriber carrier for a small number of high calling rate lines on the one hand, and a community dial office to serve a larger number of lines having considerable internal interest on the other hand.

"Between these two limits there is a considerable field of use for concentrating equipment," he said. "This use may be temporary in nature to defer large expenditures for conventional line facilities, or may prove to be permanent in some cases where growth demands are small. It is interesting to note however, that the telephone system of the future may well be expected to make wide use of this concentration principle. By locating part of the central office equipment in the field, pairs for every subscriber's line will not be required clear back to the central office, and thus great savings may be expected in the feeder cable plant of an exchange."

Discussing the field of use for line concentrating equipment, Mr. Reese described the following applications:—

(1) *The case of a resort locality along a mountain river some* 15 *miles from an existing exchange.* For some years this locality was used by summer cottagers and more recently by persons building permanent dwellings for year 'round occupancy. They had very little internal interest since their calling mainly involved telephones in the principal community served by the exchange. The area was served by an open-wire lead having seven pairs of wires. An economic study of cable versus the establishment of a community dial office proved in the latter by a considerable margin. Since line concentrators were not available at this time, a central office was established with some 90 subscribers on 20 lines. Obviously, this was an ideal case for concentrator application; and could one have been made a saving in initial cost of some $30,000 could have been realized. A concentrator installation here would have been expected to be "permanent," since the rate of growth in this community has been slow and is expected to be slow for some period in the future.

(2) *The case of business and rural development along a highway at the outskirts of a small city.* Continued growth in the area is expected. While the distribution cable plant was fairly adequate, the underground and aerial feeder cable had been completely exhausted.

Some distribution cable construction was immediately required in any event. But cost studies showed that some $19,000 of feeder cable might be deferred for two years by the use of a concentrator. Translated into terms of present worth of annual charges, the line concentrator installation had an advantage, even though small. But more important, perhaps, was the fact that the use of the concentrator placed the company in a position to "wait and see." Additional savings might be realized if the anticipated growth did not materialize to require the additional cable in two years.

In this instance the concentrator unit in the field was applied at a point on the feeder cable where a cross-box was located, some two miles from the central office. The 100 pair cable towards the central office was 97 percent filled and the distribution cable beyond the cross bar had a 33 percent fill.

The application of the concentrator initially involved 80 subscribers on 37 lines and resulted in producing

a total of 29 vacant pairs from the crossbox back to the central office. At the calling rates and holding times experienced in this exchange. Mr. Reese expects that 12 additional lines may be applied to the concentrator bringing the total main stations served by it to approximately 100 and freeing additional central office pairs. Recent growth has indicated that more than the two years anticipated deferment of the next cable job will result from the use of this one concentrator system.

(3) *In sections of a city where the telephone saturation has been slight in the past and a redevelopment project may materially change the telephone requirements,* the location of a line concentrator unit in the basement of an apartment house or housing unit may make it possible to continue the use of the otherwise inadequate outside plant by concentrating the higher service grade lines required in the apartment house or housing development on a few pairs back to the central office.

The concentrator is a convenient tool to use in coping with base rate area. This demand either must be handled by additional outside plant facilities, or by concentrating the lines onto the existing facilities. Here the concentrator quite often may be expected to at least defer the additional outside plant investment."

(4) *In a multi-office city, line concentrators may be employed over a few cable pairs between branch offices* to temporarily serve subscribers of one office who have moved to the area of another office with their original numbers in their old central office for the remaining life of the directory. Thus, the need for intercept service is reduced. Another application might be found where paystations or lines requiring the use of long line adapters or other special equipment may be concentrated and the special apparatus applied only to the few concentrated trunks rather than to every subscriber line concerned.

Accident Prevention

STRESSING that accidents are preventable, L. C. Meyer, electric system specialist, Employers' Mutual Liability Insurance Co., of Wisconsin, Wausau, emphasized that "the big majority occurred because of just one thing — a mistake — sometimes on the part of the accident victim, often on the part of supervision."

"Too often," he said, "we place too much importance, or confine our attention, to the accident itself. It is easy to do this because that is where the spectacular exists — the smoke, the noise, the flow of blood and the screams of the injured. Take care of the injured, of course, clean up the mess — *but don't stop there.* Do not rest until you have identified every single cause and taken the necessary corrective action that will prevent recurrence of the accident. And while we're on the subject, don't ever accept 'carelessness' as an accident cause. Anyone who tries to use that term as an accident cause is giving an alibi, possibly because the real cause would embarass the individual making the report. A true accident cause always indicates the necessary corrective action. Where can you go with the term 'careless'?"

Mr. Meyer urged his audience to recognize the fact that safety is a function of management.

"All successful action must stem from that source," he said. "Management is the keystone in an organization regardless of its size."

Emphasizing that it is the attitude shown by management that will be reflected all the way down through the organization, Mr. Meyer said — "Perhaps attitude toward safety is nowhere more important than in a supervisor or foreman, keeping in mind that to the employes, he is a representative of management."

"Certainly," he said, "one duty of a supervisor is to provide safe working conditions. Obviously, he needs to have adequate knowledge of what makes safe conditions, a source of which is his own background of experience. Other sources are state safety codes and standards, insurance carrier safety engineers, safety councils and trade associations. Suppliers of equipment and material can provide help in the safest method of using their products."

Quoting Woodrow Wilson, who once said that, "In these changing times a man has to run to keep even, and to run twice as fast if he expects to get ahead," Mr. Meyer said: "The attitude of a good supervisor must be such that he realizes there are things to learn, that improvements can be made. Management must give its supervisors the opportunity to keep up with changes and new developments *in* the industry . . ."

Warning that other elements must also be considered, Mr. Meyer said, "It is important, as far as is possible, to match the worker and the job on the basis of job requirements and the worker's physical and mental abilities to perform the work. This requires a careful analysis of the requirements of each job and adequate information about the individuals who are going to be placed at the work.

"The next important step, from an accident prevention standpoint, is thorough training in total performance of the job — for quality, quantity, and safe production. Let's not forget that this does not only apply to new workers. The training job only starts there. Everytime a person's job is changed — whether he is transferred from one job to another, or whether some part of his existing job changes, there must be additional training and instructions. Too frequently the supervisor, on whom the responsibility for training often falls, is so familiar with the job that he may overlook some of the key points or hurries the trainee too rapidly . . . ."

Discussing methods of motivating workers to want to do their job safely, Mr. Meyer said, "A large part of it boils down to knowing well the people that you supervise and knowing the things that interest them."

"If you know what things interest and mean the most to an individual," he said, "you have a pathway to motivating him in his work practices. Along with such motivation it is of utmost importance to set a good example. You can't convince others of the necessity of doing things in a certain way unless you do likewise . . . ."

Subscriber Line Carrier

DISCUSSING subscriber line carrier, Paul Murphy of The Telephone Service Co., of Ohio, Lima, told the plant conference that typical uses for equipment are: (a) Providing service to held-over subscribers where vacancies on physical facilities are not available; (b) allocation of physical facilities for special uses such as paystations, radio loops, etc.; (c) meeting new housing developments on a temporary basis; (d) providing temporary service for construction camps, resorts, etc.; and (e) providing private lines, two party

lines, etc., to rural subscribers to up-grade service.

"To best determine the feasibility of 'Subscriber Line Carrier' for a particular project is to weigh the basic reasons for selecting one medium over another medium," he said. "For example: (a) Equipment costs; (b) ease of installation; (c) reliability and maintenance costs; and (d) expandibility and flexibility."

Explaining that the equipment cost is necessarily related to each particular installation, Mr. Murphy said "that each installation must be considered and evaluated separately just as considering and evaluating an expansion of cable plant, open wire plant," or the installation of a radio system.

"It may only be necessary to install a carrier terminal in a central office and a carrier terminal at the outlying subscribers' premises with line filters, protection, and common equipment at each terminal," he said. "However, such installations may require the equipment to be pole mounted in special cabinets at one or both terminals and such additional equipment as Way Station Filters, Transfer Filters, and auxilliary power supplies. In any event, the expenditure may be substantially less than that required to provide comparable service through the expansion of cable or wire line facilities or the installation of a radio system."

H. W. B. FARR and JAS. T. DALY of Plastic Wire & Cable Co., depart by helicopter from Conrad Hilton roof after the USITA Convention.

In conclusion, Mr. Murphy said, "We can say from our experience in Ohio that: (1) The use of the transistor in the design of carrier equipment, will, by the resulting elimination of tubes and lower power consumption, make the 'Subscriber Line Carrier' more adaptable for consideration than in the past; (2) the inherent ability to be able to reuse this equipment as our general distribution system plans change makes the 'Subscriber Line Carrier' particularly adaptable for relief or interval application; and (3) carrier is now and will continue to become an ever more important part of our general distribution system."

— The papers presented by B. C. Burden and C. H. McLean will be reviewed in an early issue.

"Simplified Methods" Previewed at Accounting Conference

THE ACCOUNTING Conference on Tuesday morning, October 16 featured a program by the Association's Accounting Committee. A report of the activities of that committee was presented by Chairman, O. M. Westrup, vice-president and comptroller, Illinois Consolidated Telephone Co., Mattoon, Ill.

Simplified Station Accounting

ROBERT BUZZARD, controller of the General Telephone Co., of Pennsylvania, Erie, told the Accounting Conference that the new Federal Communications Commission order covering accounting for station apparatus, station installations and station wiring, applying to Class A and B telephone companies under the jurisdiction of FCC, is the most extensive change in telephone accounting procedures since 1937, when the present Uniform System of Accounts was adopted.

Mr. Buzzard stated the new procedures contemplate the following changes:

(1) *Account* 231 — *Station Apparatus*: — This account is amplified to include the equipment or apparatus portion of small PBX's and booths in addition to the present equipment includable in this account. It is placed on a cradle-to-grave basis. The concept of retirement units has been abandoned for this account. Instead, there will be major items known as disposition units in terms of which the normal final retirements from this account are to be reported. Each company will maintain its own list of such disposition units. Items normally used as station apparatus repair parts will be included in Account 605, Repairs of Station Equipment, when purchased. All station apparatus, small PBX's and booths will be charged to Account 231 when purchased and remain in this account until final retirement, thereby eliminating all in and out field reporting of station movement.

(2) *Account* 232 — *Station Connections* will be a combination of present Account 232, Station Installations, and Account 233, Drop and Block Wire; it will also include the installation cost of small PBX's and

(Continued on page 88)

booths and will be treated as depreciable.

Due to the fact that station installations will be maintained in good working condition and all repairs to such installations during the period that the installations are in service will be charged to maintenance, and, because the actual physical life of this plant is greater than the in-service life of the plant due to the changing requirements of the customers, no starting depreciation reserve is necessary for station connections.

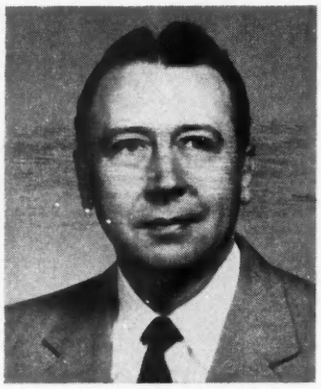
(3) *Account* 234 — *Private Branch Exchanges* will be limited to large private branch exchanges. Large private branch exchanges are defined as multiple manual boards and dial boards designed for 3 or more digit operations.

(4) *Account* 235 — *Booths* will be eliminated and the booths will be transferred to Account 231, Station Apparatus. Ordinary furniture now in Account 235 will be transferred to Account 261, Furniture and Fixtures. The installation cost of the booths will be transferred to Account 232, Station Installations.

(5) *Account* 607 — *Removals and Charges, Wiring Gain and Loss* will disappear. The cost of work on all inward station movement (new installs, reinstalls and reconnects) will be charged to Account 232, Station Connections, and the cost of work on all outward station movement (removals and disconnects) will be charged to the depreciation reserve.

(6) *The cost of station apparatus*, booths and small PBX's now in Account 122, Materials and Supplies, will be transferred to Account 231, Station Apparatus. The Maintenance material now in Account 122, Material and Supplies, will be charged to Account 605, Repairs of Station Apparatus.

"The new revisions in the System of Accounts," Mr. Buzzard said, "will do away with the need for plant retirement accounting for interim outward movement. It will also eliminate plant addition accounting for inward movement of station apparatus reused. This equipment will remain in the asset account at original cost throughout its physical life. This is true whether the equipment is in stock available for installation — in process of being repaired or rebuilt — installed and used in service or in the status of left-in-equipment. Station apparatus parts would also be charged directly to the plant-in-service account if important enough to qualify as major units of property or betterments. Otherwise, the units would be charged to the material and supplies account.



O. M. WESTRUP,
Chairman,
Accounting Committee.

"The units of plant-in-service will be composed of the Revenue Accounting billing records, the plant record of left-in stations and preinstalled stations — plus the equipment on the shelf. These records must be maintained in a manner that will insure the integrity of the accounts. Physical inventories of equipment on the shelf and in the repair shops are to be taken each year."

Mr. Buzzard stated that placing the new procedures into operation will depend on several factors: (1) The amount of property in each one of the categories; (2) the disposition units established in each company; and (3) the procedures now being followed by the company.

"It should be kept in mind always," he emphasized, "that the burden of proof rests with the company. It is the company's responsibility to maintain its records in such a manner that in any proceeding before the Commission the company will be completely prepared to prove the physical existence of the property — its original cost and that a proper basis of retirement has been followed when the property is abandoned or disposed of."

Explaining that wording in the new accounting requirements gives consideration to the varying operating conditions of the relatively small companies as well as to the large operating units of the Bell System, Mr. Buzzard said that, "Obviously, a company with 50 booths will need different procedures than a company with 50,000 booths."

"The smaller company may find it more economical and desirable to maintain its record of booths on the basis of identity with the original cost allocated to each specific booth at the time of purchase," he said. "The larger company, on the other hand, may want to keep its records on the basis of average costs. Also, the larger company may use statistical analysis and sampling inventories to determine the surviving plant, age of retirement, etc. The large company may purchase major parts of apparatus and assemble much of their own equipment in their shop, while the smaller company may purchase equipment already assembled. In each case, the disposition units would be different and the new requirements take this into consideration.

"There is nothing in the new procedures which would prohibit the company from keeping a detailed record of the movement of each station if it desires to do so. In other words, with very little change from the detailed procedures now being followed the new procedures can be adopted and then the company can progressively work toward the elimination of the detailed plant reporting. This will maintain the integrity of the present records and will give time to gain experience in maintaining the records without the detailed reporting. This can be done by establishing subaccounts in Accounts 231, Station Apparatus, and 232, Station Connections, for each of the segregations the company desires to maintain . . ."

Accelerated Tax Depreciation

JAMES D. LAMB, public utility manager, Arthur Andersen & Co., Chicago, listed the following examples of the progress made in establishing accounting procedures to be followed by a utility using accelerated depreciation for tax purposes:—

(1) One significant principle has evolved — that the deferral of Federal income taxes through the application of accelerated depreciation should be reflected in income as a cost for accounting purposes. In other words, the adoption of accelerated depreciation should not be allowed to change net earnings for book purposes from the amount that would be reported if straight-line depreciation were used for tax purposes.

(2) Twenty-three state commissions have issued formal orders with respect to the accounting procedures to be followed by utility companies claiming accelerated depreciation for tax purposes. On the most important principle there is complete unanimity in that each of the state commissions prescribed accounting that provides for the so-called "normalization" of net earnings.

Discussing the terms "normalized" and "normalization," Mr. Lamb stated that although they have common acceptance, since they have been used frequently in connection with the provision for deferred income taxes, actually they are poor terms, since they imply an equalization of earnings and there is no equalization of earnings — the provision for deferred income taxes is as much a current cost as the income taxes paid.

"Twenty-two of the commissions ruled that charges should be made to the income account to reflect as 'normalized' taxes," he said, "the amount of Federal income taxes that would have resulted through the use of straight-line depreciation. The Wisconsin Commission held that net earnings should be 'normalized', but that this 'normalization' should be accomplished through additional charges to depreciation expense equivalent to the reduction in income taxes.

"The commissions have prescribed that the charges to income be recorded on the books by contra credits to either a tax reserve, appropriated surplus, surplus restricted for future income taxes, or in the case of the Wisconsin Commission by a credit to the reserve for depreciation . . . ."

Pointing out that a number of telephone companies, subject to the jurisdiction of the Federal Communications Commission, have received accounting orders from their state regulatory commissions covering deferred income taxes, Mr. Lamb said, "This in itself creates somewhat of a problem, since as yet, the FCC has not taken any formal action regarding the accounting to be followed by companies claiming accelerated depreciation."

"A petition has been filed," he said, "with the FCC seeking an amendment to the Uniform Classification of Accounts from Class A and B Telephone Companies with respect to the accounting for deferred income taxes. The petition asks that the credit for deferred income taxes be made to Account 174, Other Deferred Credits. Regardless of the accounting which the FCC may approve, certain telephone companies will probably be in the position of reporting to the FCC on one basis and to state regulatory commissions on another basis as far as the credit for the deferred income tax is concerned . . . ."

R. W. SHRINER,
Chairman,
Subcommittee on Separations.

Commenting that the Federal Power Commission is in the process of amending its Classification of Accounts for Natural Gas Companies to make it clear that a reserve for deferred Federal income taxes should be provided when accelerated depreciation is utilized, Mr. Lamb said it would seem logical to assume that the Federal Power Commission will also amend its Classification of Accounts for Electric Utilities, since the principles it has approved for natural gas companies apply equally to electric utilities. "Again, if this is done," he said, "a conflict will exist in those states where the state commission has ordered the credit to be made to some account other than a reserve for deferred taxes. In my opinion, the deferral of income taxes creates a liability which should be reflected in the balance sheet of a utility company and the most logical way to do this is through the use of a reserve for deferred Federal income taxes . . . ."

Pointing out that in many of the hearings held in connection with applications for accounting orders, it has been said that the deferral of Federal income taxes will be a permanent deferral and, therefore, is actually a tax savings, Mr. Lamb emphasized that such arguments are based on the theory of using depreciation deductions of future periods to offset deductions used in prior periods.

"It certainly does not seem equitable," he said, "that the security holders should give to current customers a valuable tax right, a depreciation deduction applicable to a specific year's property additions, merely because it is expected that property additions in a subsequent year will provide an offsetting depreciation deduction. This would be the same as borrowing from Peter to pay Paul. Such a theory does not eliminate the liability for the payment of the deferred taxes at some future date. The liability is just as real as accrued payroll or first mortgage bonds.

"Further, there is no assurance that the liberalized methods of depreciation will be available indefinitely. If the law should be rescinded at some date in the future, and the deferred tax liability has not been provided for, the future customers, investors, or both, will be burdened by higher taxes . . . ."

Stressing that the most significant problem attaching to accelerated depreciation and one which has received less formal action deals with the rate aspects, Mr. Lamb stated that with few exceptions, the commissions which have ruled on the accounting treatment to be accorded tax deferrals under Section 167, have either remained silent as to the treatment of tax deferrals for rate purposes, or have specifically stated that their accounting orders will not necessarily be controlling in rate proceedings.

"If regulatory commissions consider that the deferral of income taxes should be passed on to the customers through reduced rates," he said, "utilities would not have the benefit of such tax funds which Congress intended. The resultant rate reductions from such a position would certainly be discriminatory against future customers, investors, or both, to the advantage of present customers, since someone would be required to pay for higher taxes as the result of lower depreciation deductions in future years.

"At the same time, there would be no incentive for management and investors to take the risk that they would be allowed to collect higher taxes in the future, or if allowed, whether economic conditions at that time would be such that the customers

would pay the increased rates required to cover the higher taxes. Such a condition would force investors to assume the burden of an inadequate return. Under such conditions a utility company would not be justified in claiming accelerated depreciation for tax purposes.

"It remains to be seen what position the majority of the commissions will take with respect to 'normalization' of income for rate purposes to recognize the effects of accelerated depreciation. If they allow a provision for deferred income taxes as a part of the cost of service for rate purposes and at the same time reduce the rate base by the amount of the tax reserve, a company would not be allowed to earn any return on a portion of its property. Management and the investors would have to assume all of the attendant risks. The return on the property constructed with deferred tax funds would be passed on to the customers . . . ."

Warning that companies that are recording the deferred taxes in a restricted surplus and including such surplus as a part of common equity in their financial statements may have difficulty justifying their position in future rate proceedings. Mr. Lamb emphasized the opposition may take the position that such surplus reserves are only equalization reserves and that the contra charges to income should not be allowed as a part of the cost of service.

"This," he said, "is a further argument for the classification of the amounts of restricted surplus for deferred Federal income taxes outside of the capitalization section of the balance sheet. There is also the possibility that a commission will include the amount of such restricted surplus in the computation of the cost of money and assign a zero cost to such funds. If the rate of return allowed by the commission reflected the full effect of the accumulated deferred taxes at no cost — it would have the same effect as deducting such deferred taxes from the rate base."

"It seems clear from the number of commission orders issued to date," he concluded, "that the majority of the companies adopting the use of accelerated depreciation will 'normalize' their net earnings by charges to income in recognition of the deferment of Federal income taxes. We must await future rate proceedings and court decisions for the answers to the complicated rate problems . . . ."

Growing Importance of Separation Studies

RALPH W. SHRINER, staff engineer, Peninsular Telephone Co., Tampa, Fla., explained to the Accounting Conference that the 1955 Independent telephone company Separation Procedures were developed for the express purpose of making the recent nation-wide "A" and "B" studies. While much of the procedures and many of the forms can apply to individual company separations, the procedures are not complete for it had been agreed between the USITA Sub-Committees and Bell representatives, who developed the procedures and supervised the studies, that certain final items would be determined on a national basis and applied by the committees in completing the studies.

"Separation procedures for an Independent company's use were started by the Sub-Committee on Separations and set aside," he said, "the latter part of 1954 before their completion, so that the recent 'A', 'B', and 'Line Haul' studies could be dispatched. They are presently being worked on and it is hoped complete procedures on a more understandable basis will be available before long."

Emphasizing that with present-day volumes of Bell-Independent traffic, the stakes are high and accuracy so important that care must be exercised in selecting a proper person to organize the work and finalize the results, Mr. Shriner said the selected person should be a well qualified accountant having analytical ability, or an engineer having a keen insight of telephone company operations and accounting.

"It is desirable before beginning," he said, "particularly a joint study where Bell representatives assist or observe while a study is being made, to have an understanding on:

"(a) Periods and duration of subscriber line holding time studies and related toll usages for determination of the ratio of local facilities used in connection with toll messages.

"(b) Periods and duration of traffic unit studies for separation of switchboard, operators wages, etc. into B-I (or Bell-Independent) and other usages.

"(c) Analysis of toll message tickets, periods, quantities, etc. to determine conversation minutes per message by types of messages and conversation minute miles in order to determine relative usage of toll lines, inter-toll dialing equipment, etc.

"(d) Handling of specific items where the methods outlined in the manual cannot be used or where they would distort the real costs.

"(e) Modification in procedures so as to use available records and produce more reliable separation of certain accounts.

"(f) Adjustment of expenses, to account for wage and other expense changes not fully reflected on the books."

Stating there may be other items which "a knowledge of your operations and records may suggest," Mr.

Shriner emphasized that, most important are agreement on Period of Study, Rate of Return the Independent company should have and if on end investment or average investment, and the effective settlement date.

"As to the latter," he said, "many of the Bell Associated Companies maintain that it is a fixed Bell System Policy that the effective date is the completion date of a study. Remember it takes two to make a bargain and your company may also have a policy. The effective date is particularly important when there have been material changes in wage rates or operational changes which materially effect operating expenses. If these matters are anticipated and worked out before-hand, the going will be easier. Those we deal with can be expected to be fair and reasonable when confronted with facts."

Warning that care should be exercised in using the presently available separation procedures, Mr. Shriner emphasized that the available separation booklets were designed for another specific purpose and their underlying principals only should be used.

"In conclusion," he said, " I know that more studies will be required from time to time to keep the nationwide compensations current . . . . This separation business is a large order but it can be done, and profitably to each of you . . . ."

USITA Convention

(Continued from page 62)

From 1944 to 1951 Mr. Power was a member of the Board of Trustees of Ohio State University and served as its chairman in 1950 and 1951. He also served as a member of the university's Athletic Board during this period. From 1922 to 1939 he was a member of the faculty of Ohio State University, being an Associate Professor in the College of Commerce at the time of his resignation.

During the years he has published a college text book on the law of contracts and has been the author of numerous articles in the field of public utilities.

On June 1, 1951, Mr. Power was elected president of General Telephone Corp., having previously been a director of General Telephone's Ohio subsidiary, as well as rate counsel for the General Telephone System.

Other officers elected are: First Vice President, C. W. Haas, president of the Big Timber (Mont.) Home Telephone Co.; Second Vice President, Hugh A. Barnhart, president, Rochester (Ind.) Telephone Co.; Third Vice President, Foster B. McHenry, president Capitol City Telephone Co., Jefferson City, Mo.; Executive Vice President, Clyde S. Bailey, Washington, D. C.; Treasurer, Carl D. Brorein, president, Peninsular Telephone Co., Tampa, Fla.; Secretary, George S. Richert, Washington, D. C.; and Assistant Secretary, Courtney S. Snyder, Washington, D. C.

Atherton, Fegan, Wright Named USITA Directors

TO FILL vacancies caused by the resignations of three directors, Charles S. Cadwell, James J. Clerkin, and Rupert E. Shotts, the USITA membership elected three new directors: (1) J. Ballard Atherton, president, Hawaiian Telephone Co., Honolulu; (2) Robert Fegan, vice president, Junction City (Kans.) Telephone Co.; and (3) Walter G. Wright, president, General Telephone Co. of the Southwest, San Angelo, Texas.

E. C. Gates, president of the Minnesota Telephone Co., St. Paul, who had been appointed to fill the unex-

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pired term of the late Warren B. Clay, was reelected to the board for a three year term.

The following directors whose terms expired in 1956 were reelected for three-year terms: E. M. Blakeslee, L. D. Densmore, C. W. Haas, M. M. Hale, L. W. Hill, D. O. Hood, H. Y. Kraepelien, F. G. La Prade, R. A. Lumpkin, Kelley McNish, A. J. Sordoni and L. H. Warner.

Ralph Lucier Heads Pioneers

RALPH F. LUCIER, president and general manager of the United Telephone Co. of Indiana, Warsaw, Ind., was elected president of the Independent Telephone Pioneer Association (ITPA) at the organization's annual meeting on October 16. Mr. Lucier, a veteran Independent, succeeds Foster B. McHenry, president, Capitol City Telephone Co., Jefferson City, Mo.

Other Pioneer officers elected are: First Vice President, Kelley McNish, Bristol, Tenn.; Second Vice President Samuel F. Nixon, Sr., Westfield, N. Y.; Executive Secretary-Treasurer, Mayme Workman, Springfield, Ill.

During the business meeting the Pioneers elected three new board members: Miss E. M. Hiestand, Madison, Wisc.; George Hamburger, Washington, D. C., and William F. Miller, Des Moines, Ia.

Directors serving unexpired terms are: R. N. Cole, Portsmouth, Ohio; D. B. Corman, Louisville, Ky.; W. P. Strickenburg, Meadville, Pa.; R. F. Lucier, Warsaw, Ind.; Kelley McNish, Bristol, Tenn., and Samuel F. Nixon, Sr., Westfield, N. Y.

ITPA President McHenry presided at the Pioneer business session. In his opening remarks he praised the work of Executive Secretary Mayme Workman, and the various pioneer committees.

"The Pioneer emblem is an honor reserved for those who have truly earned it," he said. "Those who have devoted 15 or more years to making Independent telephony the great industry it is today are entitled to wear the ITPA emblem. I urge you to help us bring the Pioneer organization to the attention of all industry members . . ."

At the conclusion of the business meeting the Pioneers and their guests were entertained by "The Marked Tree (Ark.) Girls' Ensemble," a group of 12 high school girls directed by George L. Hodge.

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The constantly growing list of our subscribers even after 12 years of service is proof of our ability to help you.

And remember all of our advertising is prepared under the direct supervision of the USITA Advertising Committee.

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Planning plant practices

By T. DEWITT TALMAGE*

BECAUSE OF THE QUESTIONS and problems created by industry-wide trends, the sources of reports and other information on the latest engineering and operating practices are of growing importance to all telephone companies. Part one of this article appeared in the September issue of "Telephone Engineer & Management."

Knowing Fundamentals Helps

SOONER or later most of us learn the lesson that we must pay for what we don't know, can't do, or won't try. A working acquaintance with the literature, both present and past, of one's chosen business helps to better understand this. Regardless of the reasons that compel us to study the results and experiences of others, *to get the most out of such investigations* very often requires some degree of comprehension of at least the essential principles that underlie the subject. In fact, to avoid misinterpreting or misapplying, or both, certain types of information, a firm knowledge of fundamentals is required. Unfamiliarity with such fundamentals is a dangerous, profitless, pitfall that should be avoided by all who are seriously interested in mastering the very foundation stones of their chosen lifework.

The objective of training a worker — in or out of the telephone business —is simply to make him a better "doer." It is obvious that any worker who is given the benefit of orderly training learns sooner, learns more accurately and learns more completely about the duties he is expected to perform than one who is allowed, after a fashion, to drift haphazardly along. At this point, it is well to keep in mind the futility and costliness of trying to improve anybody who does not sincerely want to improve himself. On the other hand, when there is a will to learn, much can be gained, and gained in a short while!

Many times a great difference in attitude results between the employe who was systematically trained for his job and the employe who, for one reason or another, was forced to learn his trade the hard way: stumbling, uncharted, through tedious job experiences sometimes surrounded by an environment of indifference.

Training Pays Off

A CRAFTSMAN will generally have more enthusiasm for and pride in his job and his company if he is not compelled by his employer to learn his duties under adverse circumstances.

Very often a skilled worker feels that because of the difficulty he experienced in acquiring a variety of skills under actual working conditions alone, he has achieved his progress somewhat in opposition to his employer. In other words, the worker feels that he learned the business in spite of his employer rather than because of any interest or cooperation by the company. This difference in at-

Mr. Talmage is educational manager, Kellogg Swbd. & Supply Co., Chicago.

titude alone is worth the cost of most employe training programs.

Versatile Workers Needed

IN GENERAL, the smaller the telephone company, the greater is the need for each employe to have more numerous skills. Thus, adaptability and versatility are two of the more important qualities to look for when picking out new men to hire for telephone plant work.

Why is this important?

The requirement for flexible and broad-gauged training of telephone workers — especially plant men — stems from the inherent nature of the rather sharp variations encountered in the task of furnishing and maintaining telephone service. The character and quantity of these tasks fluctuate daily, seasonally, cyclically and emergency-wise.

Developing workers with composite skills make it possible for them to shift easily from one task to another within a fairly wide range of job content. In this way the company can meet its responsibilities to its customers in the most economical manner.

Experience has thoroughly demonstrated that an employe succeeds in any special branch of telephone work, only when he possesses certain well-defined qualifications for such work. These qualifications may be potential or developed — but their possession is essential to success.

As the character of telephone systems change, there is, in some instances, an accompanying shift in emphasis on the abilities required by plant workers. One of the requirements that remains practically unchanged is of course, mechanical ability. But another requirement that is becoming relatively more important as telephone plants are brought up-to-date is interest and ability in electrical testing. This work encompasses, among other things, (1) the possession of enough technical knowledge, (2) to understand the practical application of modern testing instrument techniques, (3) the reading and analyzing of wiring diagrams, and (4) the recognition of the interdependence of (1), (2) and (3) upon each other.

Training Testmen

THUS, in addition to the generally-recognized requirements that any conscientious and progressive plant man must have, there is needed the ability to reason logically, especially in maintenance work involving testing such as the work of the wire chief or repairman.

For example, trouble shooting, or diagnosis as it is sometimes called, is the establishment of facts; first, to find out whether or not a suspected trouble actually exists, then to track down the source in a logical manner. The effectiveness of the way this work is planned and performed influences one of the chief components of the cost of operating a telephone plant and plays an important part in determining the grade of telephone service the public receives.

Some amount — it varies between companies and types of jobs — of electrical testing work is included in most telephone plant men's duties. Not only must the proper kind of test equipment be available but each plant man must be thoroughly instructed in the correct ways of getting maximum results from its use. In other words, you must not only *have* the ammunition to do the job with but you must know *how* to use it as the following story moralizes:

Drug Clerk: "Did you kill any moths with those moth balls I sold you the other day?"

Customer: "No, I tried for five hours, but I couldn't hit one!"

While some of the instruction manuals that accompany test sets are rather complete, naturally, as a group, they tend toward emphasizing the "how-to-do-it" aspect at the expense of the user, of omitting or de-emphasizing the "why" or basic principles involved. Following these instructions alone may get the testman off to a quick start but on not too sound a foundation for future progress.

The story is told about C. F. Kettering, the research genius at General Motors Corporation and the inventor of the automobile self-starter among other things, that once he was asked what he would do if he were given an oil well.

"I would buy a book on oil," he promptly replied.

Just as Mr. Kettering decided that a book would help him out of his mythical oil dilemma, the same approach with the right book should be a thousand times more helpful in real life to the beginner required to learn the handful of principles that undergird electrical test work.

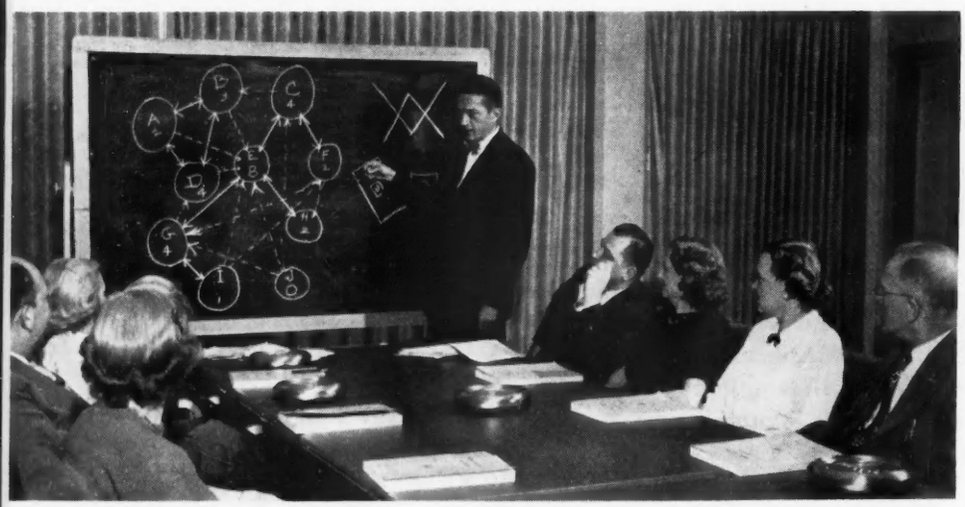
Is there such a book for testmen?

Yes, there is such a training manual — a unique and effective one!

Regardless of the plant trainee's previous education — assuming average intelligence and interest — one of the most understandable, best illustrated training manuals ever published on the subject of basic electricity became available to the public in 1954. This 579 page book by Van Valkenburgh, Nooger and Neville entitled, "Basic Electricity," puts heavy emphasis on the visual approach.

Small cartoon-type characters are used throughout the book to call attention to special circuit features or important points.

This unique simplification of basic direct-current and alternating current theory and practice, the unusual clar-



THE OBJECTIVE of training a worker is to make him a better doer. Any worker who is given the benefit of orderly training learns sooner, learns more accurately, and learns more completely about the duties he is expected to perform than one who is allowed to drift haphazardly along.

ity of the profuse illustrations, and the plan of presenting one basic concept at a time, all combine to make this book excellent for either class-study or home-study purposes.

This book must be seen to be fully appreciated.

Various methods are being used to acquaint new employes and re-train present employes with the proper use and care of modern test instruments. For example, some telephone companies have included in their plant training activities the assembly of test equipment from parts that are purchased in kit form. Thus, through the testman's own assembly of the instrument, he gains practical knowledge of important fundamentals of operation involved.

A wide selection of useful and well-designed test equipment kits are now on the market. The largest company in this field, the Heath Company, describes over 70 different test sets in its latest 51-page catalog.

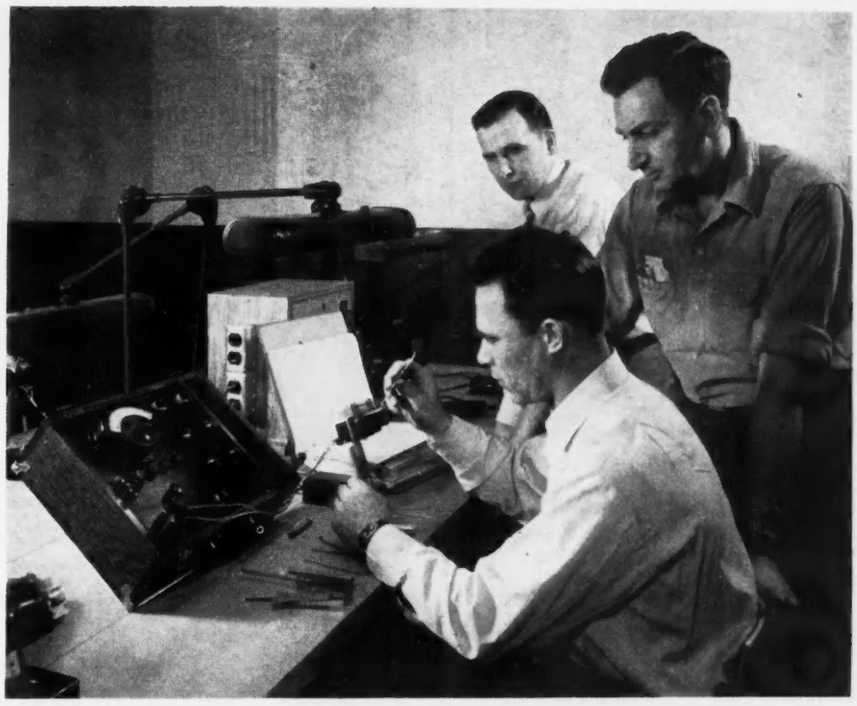
One of the popular test sets is the volt - ohm - milliammeter, sometimes called a "multimeter" or a VOM which reads quantities of voltage, current, and resistance. It has a multiplicity of ranges so that low, medium, and high values of each of these measurements can be read on a single dial or meter scale. When connected as an ohmmeter for resistance measurements, there are batteries inside the case that furnish power to make the unit operate. Several models of VOM kits are available that will fit into low-budget training programs.

Pamphlets Available

UPON request, and usually without charge, supplementary educational material can be secured from a number of manufacturers of testing equipment. A typical example is the pair of pamphlets available from the Weston Electrical Instrument Corporation entitled (1) The Instrument Sketch Book and (2) Electrical Measuring Instruments: Technical Monograph TM-101.

The first pamphlet, written by Henry Berring, Weston's educational director, is well known in the technical training field. It is made up of a series of sketches of instrument mechanisms, together with explanations of the principles of operation.

The second pamphlet is newer and more comprehensive. It was prepared by John H. Miller and covers a broad cross section of the electrical measuring field including many recent instruments incorporating the use of vacuum tubes as well as cathode ray tubes. This 20-page booklet is a reprint of the discussion that appears in the 1956 edition of the Encyclopaedia Britannica.



ANOTHER REQUIREMENT that is becoming relatively more important as telephone plants are brought up to date is interest and ability in electrical testing. The telephone central office equipment installer — repairman trainee, shown above, is using proper tools and gauges augmented by a simple test set and is becoming acquainted with the basic building block of telephone switching systems: The versatile electro-mechanical relay.

I believe that it was Samuel Butler, a noted English writer, who said: "Cooking is half digesting; we do half our digesting, therefore, outside our own bodies." Similarly, training or instructing new employes is half preparation; we do half our teaching, therefore, in advance of holding class or the discussion with the trainee. Many practical suggestions for planning and organizing training courses —formal or informal—are contained in Messrs Bollinger's and Weaver's fine guide entitled: "Occupational Instruction — How to Analyze and Organize for Teaching," included in the appended list of selected references.

In closing, it is becoming more and more apparent every day that successful companies — small or large — to remain successful, must be managed and managed well, and that means managed so as to obtain continuous improvement. Futhermore, management must keep itself mentally young, hopeful, vigorous and enthusiastic not only to attract similarly-minded new employes but, of equal, if not more importance, to adequately discharge the company's obligation to the community which it has the sole franchise to serve .

In a nutshell, success is only doing what one undertakes well; failure is doing it poorly. Careful advance planning will practically guarantee the former and preclude the latter.

Selected Reading

(1) "Principles of Engineering Economy," (book), by E. L. Grant, 3rd ed., 623 pp., 25 illus., 55 tab., The Roland Press Co., 1950.

(2) "How to Become a Better Reader," (book), 304 pp., by Dr. Paul Witty, Science Research Associates, Inc., 1953.

(3) "Occupational Instruction — How to Analyze and Organize for Teaching," (book), 135 pp., by E. W. Bollinger and G. G. Weaver, Pitman Publishing Corp., 1945.

(4) "Outline of Dial Conversion Procedures for The Small Company," (pamphlet), 11 pp., Plant Committee, United States Independent Telephone Association, 438 Pennsylvania Bldg., Washington 4, D. C. February, 1956.

(5) "Rebuilding The Rural Outside Plant," (book), 65 pp., 8½" by 11", 137 illus., 18 tab.; Educational Division, Telephone Engineer Publishing Corp., 7720 No. Sheridan

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TROUBLE SHOOTING is the establishment of facts; first to find out whether or not a suspected trouble actually exists, then to track down the trouble in a logical manner. Dial central office testman is using a telephone relay current flow test set (Model 696) to determine operating characteristics of telephone switching system components. This portable test set provides a metered current flow which can be conveniently applied to the winding of an electromagnetic device for accurate measurements.

Road, Chicago 26, Illinois. 1951 Price $1.50.

(6) "Electrical Measurements," (book), 784 pp., by Forest K. Harris, John Wiley & Sons, Inc., 1952.

(7) "Texas Companies Start 'em Right — before putting an apprentice on the pole," by Geo. A. Seaman, Sr., Electrical World, Vol. 142, No. 7, pp. 15-17, incl., August 16, 1954.

(8) "Small Office Dial Conversions," by William M. Driggs, Fortnightly Telephone Engineer, Vol. XIV, No. 9, pp. 21-23, incl., September 1, 1953.

(9) "Basic Electricity," (book), 579 pp., over 800 illus., by Van Valkenburgh, Nooger, & Neville, Inc.; John F. Rider Publishers, Inc., 1954.

(10) "The Independent Telephone Company and Nationwide Toll Dialing," (book) by L. A. Hodson, 23 pp., 8½" by 11", 6 ch., 9 illus., 2 tab., Educational Division, Telephone Engineer Publishing Corp., 7720 Sheridan Rd., Chicago 26, Ill. 1956; 75¢.

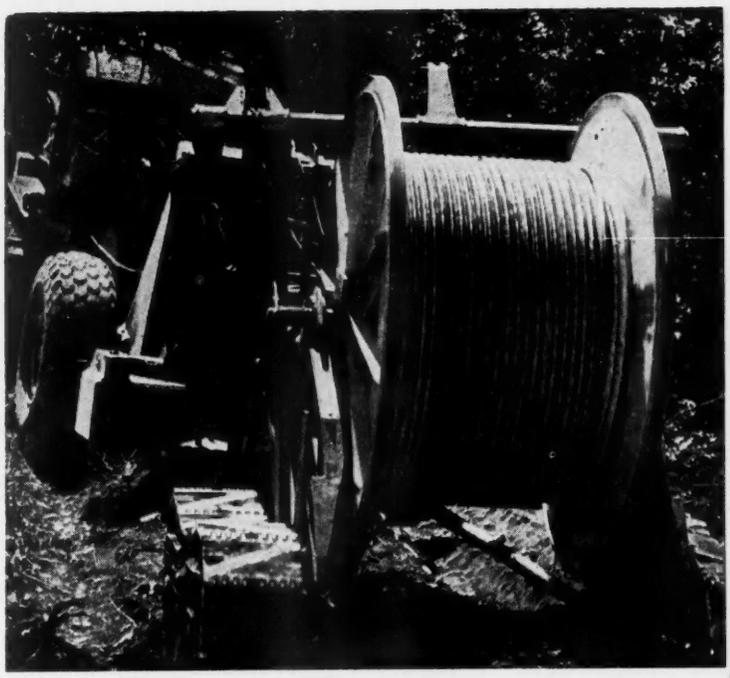
Book Review

WHEN A SCORE of America's top executives assemble with their sleeves rolled up, and their hair down, the fireworks begin. The 8th Annual conference of the Society of the Advancement of Management provided such a display of verbal sharpshooting at a target that interests all business and industry: "Management For Tomorrow." This is the title and theme of the report of the proceedings recently published by Chilton Company.

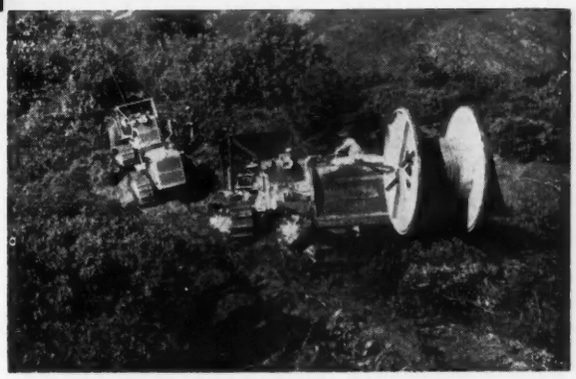
Here is vital and fresh information direct from the firing line by the men who develop and execute modern practices in all fields of endeavor.

The questions and answers recorded at the conference throw a direct light on what the American businessman wants to know.

"Management For Tomorrow," cloth bound, 5⅝x8⅜, 195 pages, 38 illustrations, published by Chilton Co., Philadelphia, Pa., is available at all bookstores; $6.00 per copy.



Modern Cable Construction



Section VIII-D of Mr. Reed's article discusses —(1) Cable lashing operations using straight lashing and temporary ring methods: (2) Cable lashing with aerial cable block conveyors. Section VIII-C appeared in the September issue of "TELEPHONE ENGINEER & MANAGEMENT."

By JOHN S. REED

Cable Lashing Operations Using Straight Lashing and Temporary Ring Methods

WHEN THE cable is to be lashed directly from a moving reel without the use of temporary supports, a cable guide, such as illustrated in *Figure* 207, is employed to feed the cable up to the messenger under slight tension. The guide is placed about four feet ahead of the lasher and separate towing lines to the lasher and the guide are employed to enable transferring these units from one span to another and provide better control of the units during lashing.

The cable guides can pass around corners when the pull towards the pole is ten feet or less, or away from the pole, five feet or less as governed by the size of the cable. At corners with greater pulls, the cable will have to be lifted between the pole and the reel with block and tackle. The use of corner jacks as illustrated in *Figure* 209 will facilitate lining up the cable with the strand and suspension clamp for the lashing operation and enable transferring the guide and lasher around the corner pole in the normal manner.

A typical straight lashing operation is depicted in *Figure* 210.

If it is desired to pull in the cable before lashing, temporary cable rings are placed on the messenger five to ten feet apart. After the cable is lashed, these rings are replaced with loops of house line or steel wire. Spring type support rings illustrated in *Figure* 208 may be employed for this purpose. In the cable lashing operation, the cable lasher pushes the loops ahead. With this procedure, it is necessary to anchor the cable in position at the starting end and apply tension to keep cable straight and take out slack accumulating towards end of cable.

A stationary reel set up is required

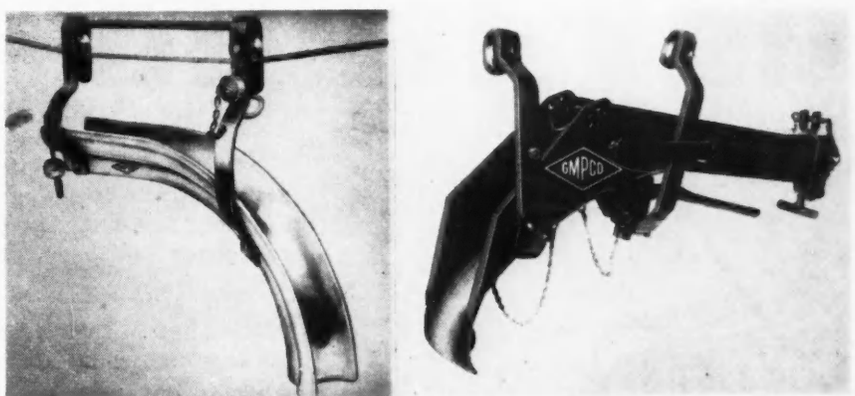
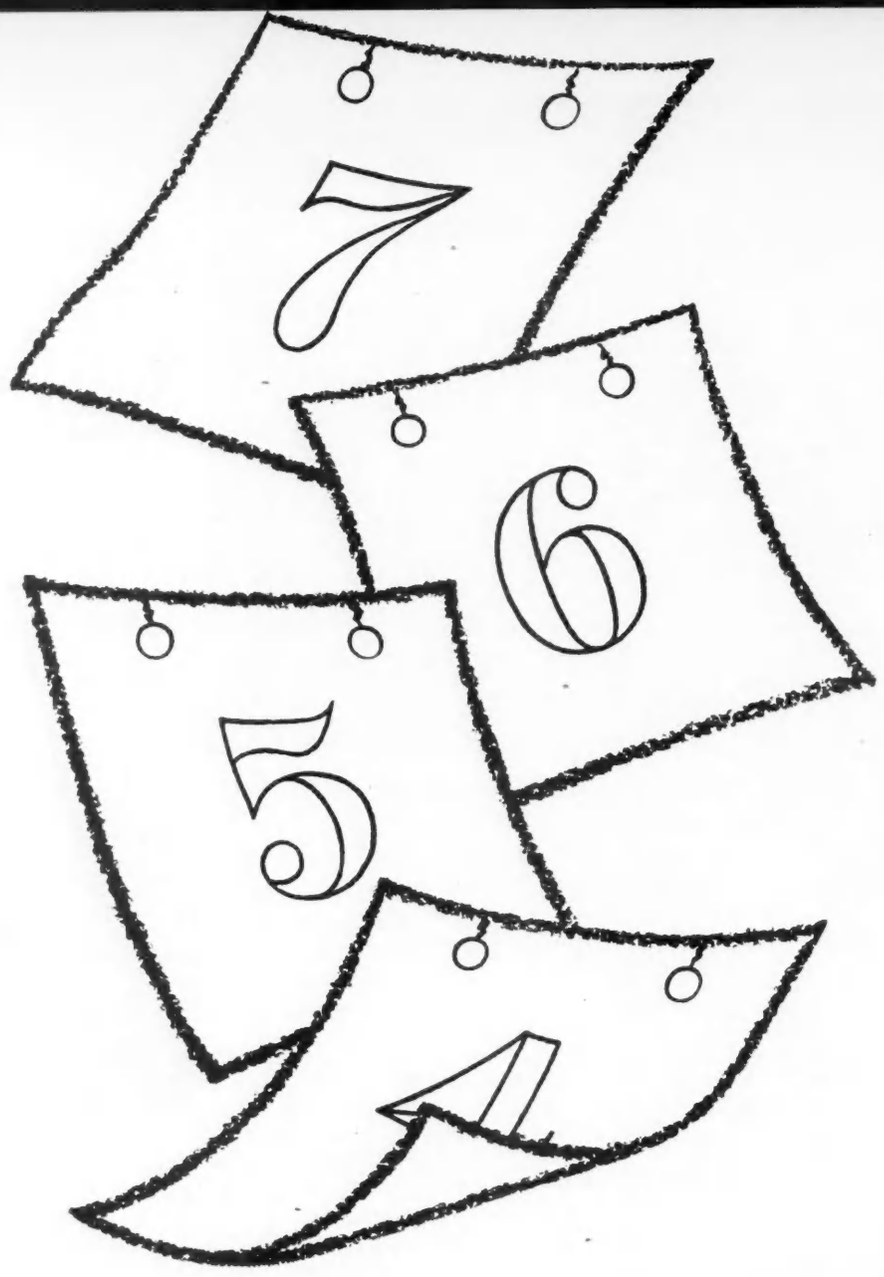


FIG. 207: — Left — GMPCO Aerial Cable Guide used ahead of the cable lasher to raise cable to strand. Shoe is aluminum casting designed to fit cable of one inch diameter or less. Right — Type C Aerial Cable Guide and Straightener designed for cables up to 3 inches in diameter.



day in day out

The "bread and butter" of the telephone business is the everyday calls friends and neighbors make to each other. Fostering this everyday use of the telephone is an important part of the Bell System's continuing promotion program.

The advertisement on the opposite page will, during October and November, remind millions of Americans of the rewards of keeping in friendly touch by telephone. It will help promote the day-in, day-out use of the telephone in areas served by *all* of the nation's telephone companies.

"IT'S FUN TO PHONE"

"SO GLAD YOU CALLED"

"IT'S GOOD TO HEAR YOUR VOICE"

"THE DANCE WAS SWELL"

Just calling up can brighten your day

The telephone can be priceless in emergencies. It's the world's best helper when it comes to saving time, trips and trouble.

But one of its greatest uses has nothing to do with sudden need or calls to the grocer, dentist, hairdresser, electrician, department store, etc.

It's to bring friends and families together.

Just to be able to lift the receiver and talk to others is one of the joys of the telephone.

Isn't there some news you'd like to share with someone right now? And hasn't that someone some news you'd like to hear?

A telephone call that costs so little can do so much to brighten the day at both ends of the line.

BELL TELEPHONE SYSTEM

TUNE IN "TELEPHONE TIME"...the TV program with John Nesbitt's real life stories the whole family can enjoy together...every Sunday over CBS

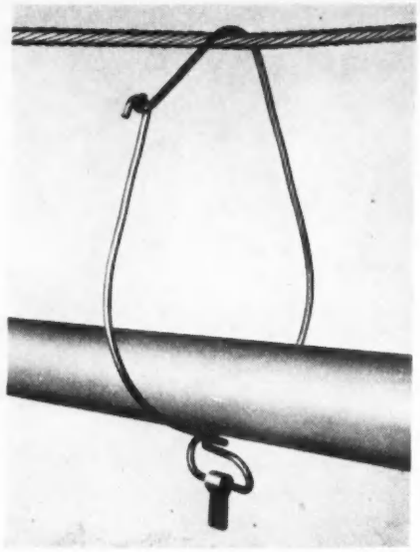


FIG. 208: —— Type B Support Ring for supporting aerial cable prior to lashing. The larger loop supports the cable while the smaller loop with hinged tongue is for attaching the rope used to space the rings.

for this procedure. Either cable reel jacks or a cable reel trailer is employed for this purpose. Where a reel trailer is used, the wheels should be chocked in place. If the reel has to be placed out of line of the cable lead, it should be turned at a slight angle to the lead, so the cable will not rub against the reel sides.

The general practice is to locate the reel about twenty feet back of the cable guide attached to the messenger. In this case, the cable feeds from the top of the reel. In some situations the reel may have to be set farther back of the cable guide and it may be more satisfactory to have the cable feed from the bottom of the reel rather than the top. However, care should be taken not to let the cable drag on the ground.

The cable guide is hung on the messenger in the usual manner, but its movement is restricted by attaching a 3-bolt clamp to the messenger and in front of it. To avoid getting grease on the drive wheels of the lasher, it is not advisable to lubricate the cable being pulled into the guide.

It is advisable to station a man to watch the cable reel during the pulling operation to control it in event of overrunning and to have it stopped if the cable sticks in coming off the reel, also to reduce the pulling speed as the cable comes to the end. The pulling speed should be controlled to avoid swinging of the cable and messenger. Another man should watch the pulling end of the cable as it progresses and to signal the winch operator to stop or slow down as required. These men should be in sight of the winch operator at all times and the operator should be alert to receive signals from them.

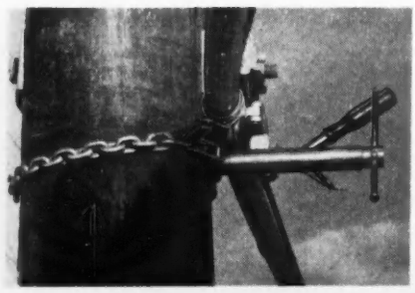
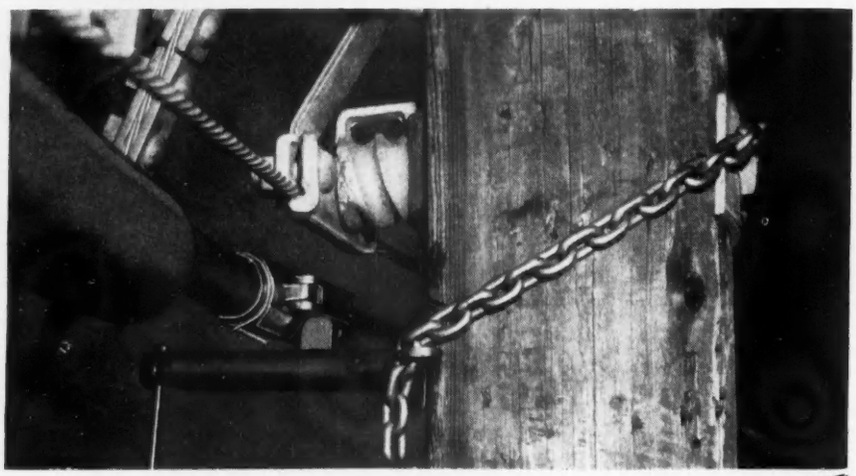


FIG. 209:—Bottom photo Tug-O-Wheel Products Company corner cable jack for bringing cable in line with suspension clamp until permanent termination is completed. Above, left—Jack used at inside corner. Center—Jack at outside corner.



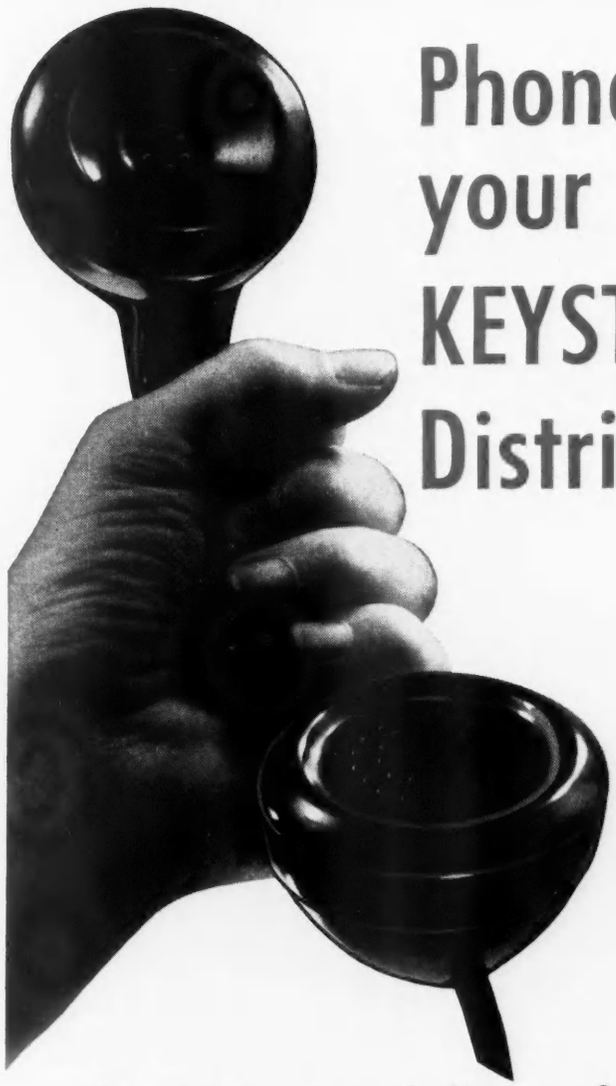
Cable Lashing With Aerial Cable Block Conveyors

ANOTHER method of temporarily supporting the cable for lashing to the strand makes use of aerial cable block conveyors manufactured by the Tug-O-Wheel Products Company. *Figure* 217 illustrates another type of cable block and associated equipment produced by General Machine Products Co.

The cable blocks designated as type "C" are made to accommodate all sizes of telephone cable. The block, illustrated in *Figure* 211, has a frame fabricated from 1" x 3/8" x 1/8" channel steel cold formed for maximum strength and durability. The sheave is cast aluminum with oilite bearings at each end of the hub for permanent lubrication. The block has a safety catch to prevent falling off the messenger and an interlock to prevent the blocks from piling up when pushed ahead of the machine.

The number of blocks required for placing a cable depends on the size of cables to be placed. For small diameter cables, at least three blocks are placed in every span, with one block close to the pole on the side toward the cable reel as shown in *Figure* 212. Where heavier cable is involved, one block is placed for every 50 pounds of cable in each span.

At corners and terminal splices, one cable block should be placed on each side of the corner or splice location. To prevent the cable from riding up out of the blocks at sharp corners, the corner blocks should be mounted in a reverse position from the other blocks with the cam lever securely



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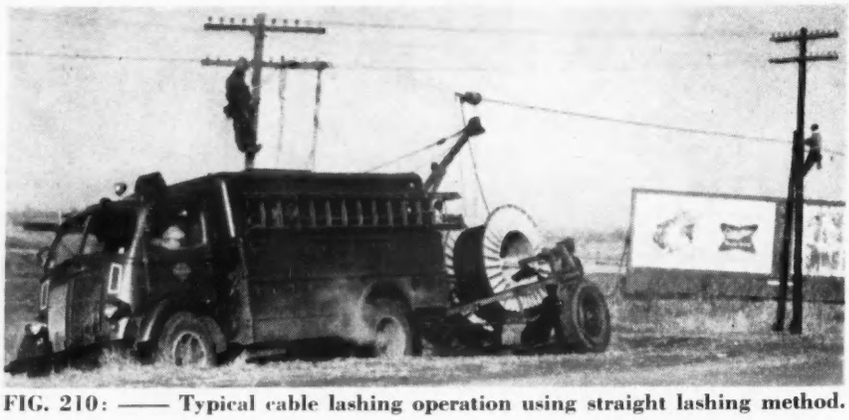

FIG. 210: —— Typical cable lashing operation using straight lashing method.

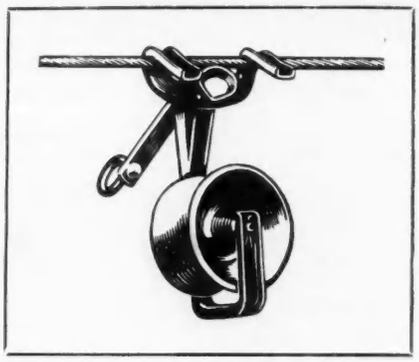

FIG. 211: — Tug-O-Wheel Type C cable block.

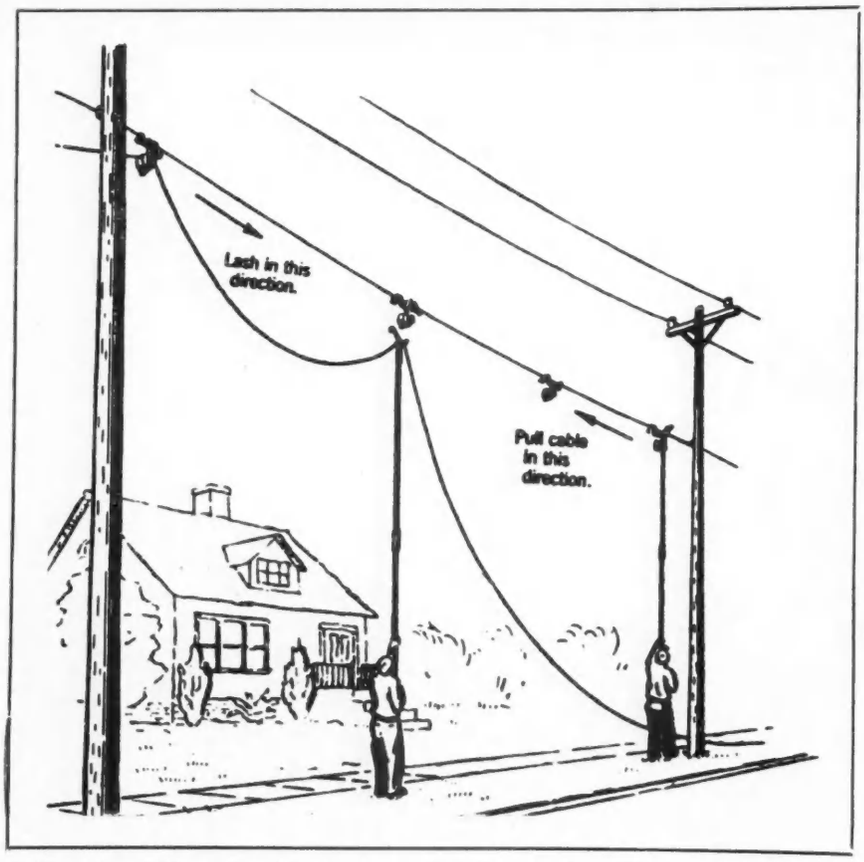

FIG. 212: — Placing cable blocks and pulling in line. (Courtesy of Tug-O-Wheel Products Company)

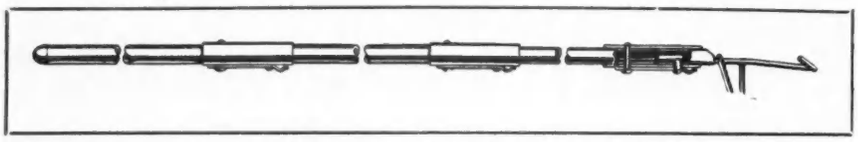

FIG. 213: — Cable block lifter with holder for Type C cable block. (Courtesy of Tug-O-Wheel Products Company)

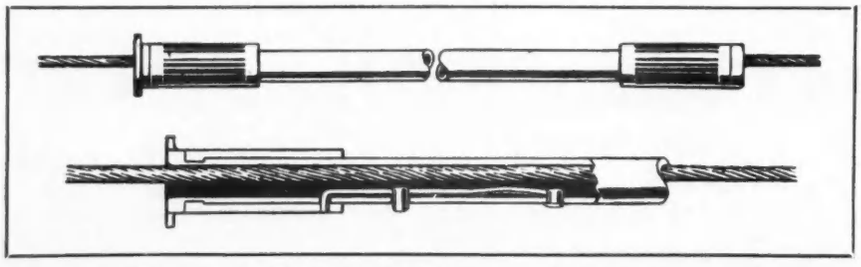

FIG. 215: — Cable block pusher for use with Type C cable block.

fastened. More blocks will be required at crossings over streets and driveways to maintain adequate clearance of the cable in these locations. In the span where the cable guide has been placed for the cable being pulled in, the cable blocks should not be spaced over 15 feet apart to minimize swaying of the cable and to privide sufficient clearance for the cable from the ground.

The cable block lifter shown in *Figure* 213 is employed to raise each block to the messenger from the ground. The lifter is equipped with a block holder (*Figure* 214) which supports the block frame and has a hook to operate the cam lever to clamp the block onto the messenger. This hook is passed through the eye of the cam lever at the time the block is placed on the holder prongs. The hook holds the lever in the open position while the block is being placed. Lowering the lifter automatically pulls down the lever. Only a light pull is necessary to lock the cam on the messenger. It is important to place every block with the cam lever pointing toward the cable reel; otherwise the blocks will not unlock when the lasher pushes against them.

After the blocks are placed along the messenger, the pulling in line may be payed out on the ground under the messenger and lifted onto the block sheaves with the lifter or a wire raising tool. The pulling in line may be ¼ inch plow steel wire rope, 2200-pound strand, or the truck winch line. Terminal splice sleeves may be suspended from the messenger and the pulling-in line threaded through them. Rope mats should be placed at outside corners to protect the cable from abrasion on the corner pole.

The rotation of the cable reel should be controlled by braking or

other suitable means to prevent overrunning of the cable. After the cable has been pulled in and the far end anchored, the reel should be blocked or braked to maintain the necessary tension in the cable.

The lashing operation should start as soon as possible after the cable has been pulled in.

The lasher is pulled toward the cable reel to release the cam lock in the blocks. A pusher, shown in *Figure* 215, is used in front of the lasher to push the blocks ahead, releasing the cam leaver each time. The pusher is a slotted tube with sleeves at each

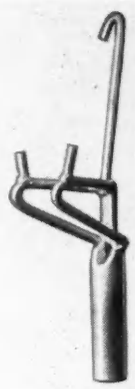

FIG. 214: — Cable block holder for use on lifter or tree trimmer handle and extension

end which are turned to lock the pusher onto the messenger. A safety lock prevents the sleeves from turning and unlocking the pusher. In use, the pusher is placed with the flanged end toward the blocks and the small end toward the lasher, which avoids scraping of the cable. For cable weighing more than 2½ pounds per foot, use two pushers in tandem.

In each span, after the blocks have been pushed to the pole, the blocks are removed from the messenger by passing a handline through them and lowering to the ground. The lasher and pusher are transferred around the pole in the standard manner and the lashing operation resumed in the next span. *Figure* 216 illustrates operation of lasher and pusher in moving blocks along messenger.

Care should be taken to see that the cable end does not run off the reel, otherwise the end may pull through the cable blocks and allow the cable to fall to the ground. The cable end should be controlled by attaching a handline to the cable before the end comes off the reel and holding on to the line until a cable grip can be placed for attaching a rope used to hold cable under slight tension until lashing is completed.— *To Be Continued.*

FIG. 216: — Showing cable lasher pushing cable blocks to next pole as it lashes the cable to the messenger.

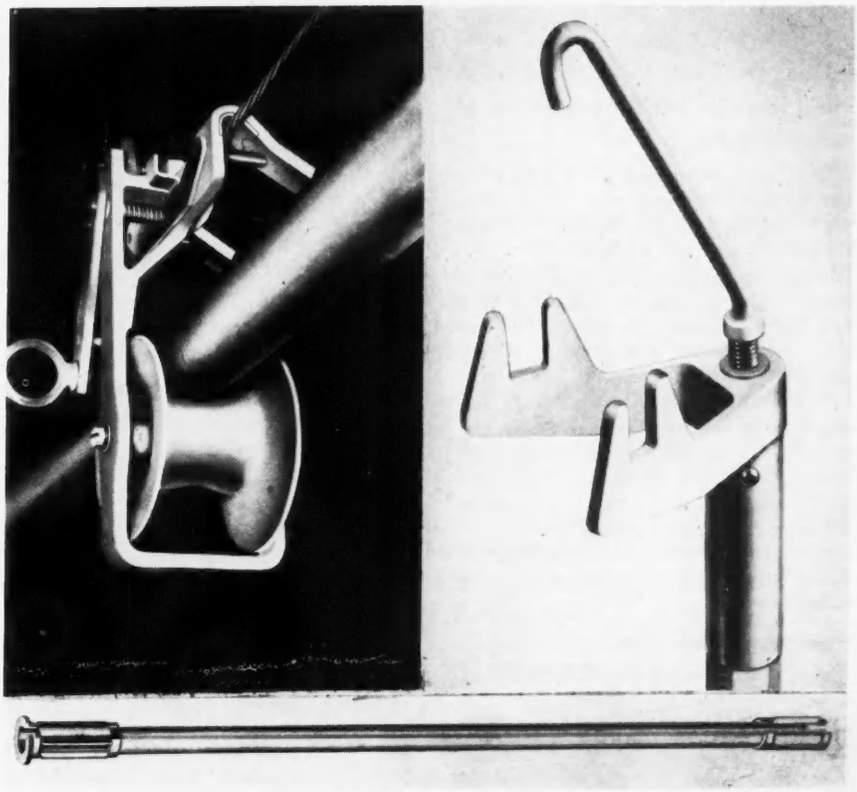

FIG. 217: — Left — General Machine Products Co. cable block with frame of heat treated alloy and sheave of same material and equipped with oilite bearings. Locking lever is reversible for locking block in either position to enable cable to be pulled in either direction. Right — Cable Block Lifter used with trimmer handle sections for placing cable blocks on messenger. Hook can be set in either of two positions 180° apart for right or left hand cable positioning. Bottom — Cable Block Pusher.

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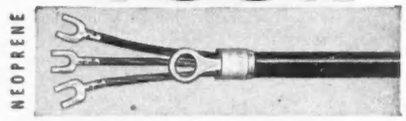
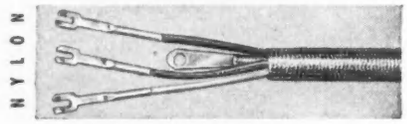


BEST



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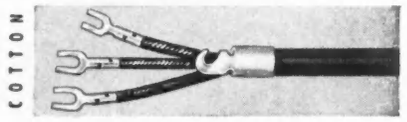

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A Way To Contribute To Good Government

GOOD PUBLIC relations between a telephone company, its employes and the general public, can be especially enhanced in this, a presidential election year.

This may be done by the formation of a management-employe committee to encourage all eligible men and women to register and vote this November. The Independent telephone company cannot afford to miss the opportunity of promoting the cause of good citizenship — and voting, an essential ingredient of good government, is desired by most of us.

Bill Brooks' article, "Employes Can be Public Relations Experts" (*'Fortnightly Telephone Engineer,' Aug.* '56) *aptly* stresses the importance of civic participation by telephone company employes. He writes, "Giving employes proper recognition for their civic activities outside the company is recommended for two reasons: (A) It encourages these employes to continue their fine work; and (B) it stimulates his or her fellow employes to get into civic and service groups and increase the number of employes spreading the good name of the community-minded company."

The basic philosophy behind such a telephone company-employe sponsored committee could embrace the following precepts as a guide.

(1) That men and women of the telephone industry have a moral obligation to foster and preserve the American way of life.

(2) That there is no better way to help this cause than for all associated with the telephone industry to get out and vote.

(3) That an employe who registers and votes and has eligible members of his family register and vote, is a more responsible employe, evidenced by his interest in good government.

To augment such a management-employe committee's effectiveness, a survey could be made of registration lists in the area. Facts and figures would then be available to the committee and should be reported in talks with employe groups. Of course individual employes should not be named in such reports if they have not registered. The committee members thus could encourage each and every employe to register before the deadline date and vote in the fall election.

A good public relations idea is to publish in the independent phone firm's magazine, if one exists, or place on a bulletin board mounted in a clearly conspicuous place, pledges of "I am a registered voter and will vote in November." If the telephone company is large and individual names cannot be used, then department totals could be published instead.

For the best possible operation, the "Pledge to Vote" committee ought to be composed of as representative a group of the company's men and women as possible. Once established the committee should go ahead full speed to show the desirability of its program. It should emphasize most emphatically that it is not interested in how any telephone company employe votes as long as a vote is cast by the employe.

A committee of this sort would be valuable, especially this year. It would enhance the company's community standing. It would contribute to good government. And lastly, but not least, it would make employes feel that they had a personal hand in election of their chosen candidates. — *George Shilakes*

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It Means So Much to So Many—More and more, people "on the go" are learning to look for the bright, inviting red-and-silvery Reynolds outdoor telephone booths that are so convenient to use, easy to locate night or day! These well-lighted, perfectly ventilated outdoor booths *increase* business because they *invite* it. Best of all, you can put them where heavy traffic *is*, winter or summer!

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- Button, button
- Love this petticoat
- Self-supporting
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- Grounding to pipe
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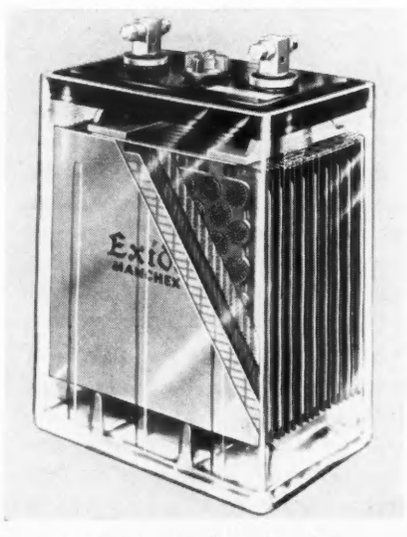
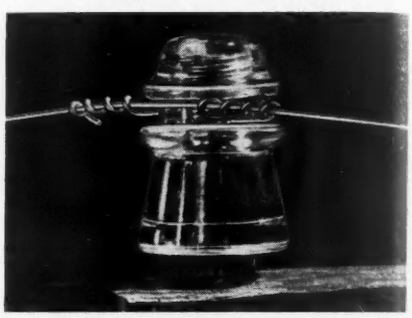


Special construction gives long life to Exide Manchex Batteries.

These and many other features combine to insure exceptionally long, trouble-free service.

Single-petticoat insulator has *long* leakage path

You get just about the longest leakage path possible with a single petticoat, on this Hemingray Number 17 insulator for medium length lines. It gives you excellent service through all sorts of weather, protects the pin from moisture, and isn't disturbed by sudden or seasonal changes in temperature.



Long petticoat, small size make the Number 17 insulator highly useful.

It's easy to put up, too, because it has a full 7/16" square groove, over ⅜" deep, which provides better support. This means you can work faster, and be sure you are putting your lines up to stay.

Distribution wire needs no cross arms

There are several reasons you can enjoy lower installing costs with this Whitney Blake multi-pair distribution wire.

Because it's self-supporting, it needs no cross arms. And it's easy to string because it's lightweight and comes in long lengths—up to 4000 feet per reel.

Self-supporting distribution wire has built-in messenger.

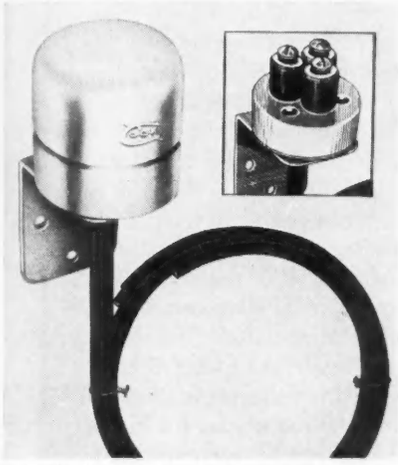
This wire has excellent electrical characteristics: low-loss transmission, low capacitance, high dielectric strength.

Its polyethylene insulation provides excellent weather resistance.

The wire is available with 6, 11 or 16 pairs of conductors. Each conductor is protected by a polyvinyl chloride covering.

For dependable power cross protection

When buying protection for your telephone plant, specify nothing less than the best, and the best is the new Cook Hy-Cap Single-Circuit Power Cross Protector.



The best in power cross protection.

Protection is provided by 3 rugged carbon electrodes, two for connection to the telephone lines and the third for grounding. The electrodes are equally spaced and adjusted to discharge at 3000 volts. The specially compounded carbons will continue to discharge as long as the fault current exists, thus protecting your plant equipment and subscribers' property. Cook Catalog No. **501-40.**

Want a good station ground for ⅜" to 1¼" pipe?

For all telephone, radio and signal circuit station grounds, here is a clamp with a tighter grip than a blonde clinging to a sailor's arm.

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Station ground clamp is adjustable for grounding to water pipe, gives maximum conductivity to joint plus high-pressure contact.

The Reliable station ground clamp is for ⅜" to 1¼" pipe, easily adjusting for any size in that range. It is made of tinned copper strip. The screws and nuts have close-fitting threads.

Direct burial cables save cost of underground ducts

Ansonia manufactures cables for direct, ductless burial, thoroughly armored to provide the mechanical protection you need for dependable telephone service.

Ankoseal Type 775-AP Direct Burial Cables offer you the added protection of two .013" aluminum alloy flat armor tapes, plus an overall jacket of Ankoseal plasticized PVC over the standard Type 775-P

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There's extra revenue in Koiled Kords* retractile cords—the spring-like telephone cords that curl up neatly instead of dangling noose-like from the telephone.

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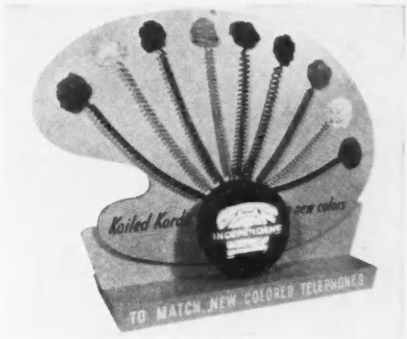

Available in black or color.

Neoprene outer jacket is smooth, clean, attractive, reduces cord trouble to a minimum.

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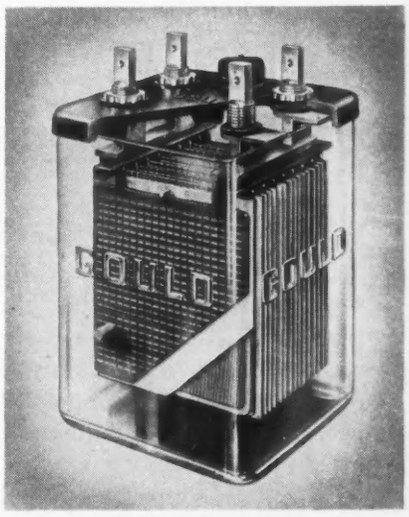
Because Planté batteries practically last forever...providing standby power that never fails...they're the best operating insurance you



A sure, dependable supply of power when you need it. That, briefly, is the story of this Gould Planté battery.

can buy. In switchgear, signal and alarm systems, or emergency light and power applications, these lead batteries have rolled up amazing performance records . . . are famous for their ability to deliver a powerful surge or a steady flow of current the instant it's needed. Make sure you're in operation . . . always. Choose Gould Planté.

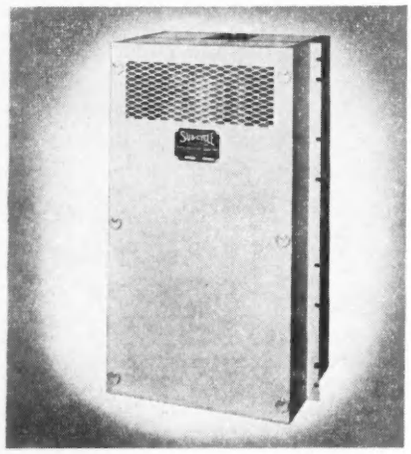
(Continued on Page 108)

(Continued from Page 107)

construction and maintenance digest

How to prevent cross-ring in decimonic systems

One good way to avoid cross-ring is to lock your ringing frequencies securely to the 60-cycle supply frequency. This eliminates frequency drift.



K-5 Sub-Cycle is available for 19" rack, as shown, or in other dimensions to fit 23" rack.

You can do this with the Lorain K-5 Sub-Cycle converter for decimonic ringing systems. This machine provides frequencies of 20, 30, 40, 50 and 60 cycles. These frequencies are rigidly locked into a fixed ratio with your 60-cycle input, by the following methods:

For 60-cycle ringing, a voltage regulator works directly off the input line. For 20 and 30 cycles, self-starting frequency dividers work directly on the input line. For 40 cycles, a frequency doubler is energized by the 20-cycle generator. For 50 cycles, a modulator combines the 20- and 30-cycle frequencies.

Accurate frequency control is just one of several advantages you get. The Lorain K-5 Sub-Cycle has no moving parts, no expendable components—your maintenance costs are nil, once it is installed.

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Revenue Boosters

Telephone Is A New Supermarket Item

IT HAS been said that a person can get almost anything he wants in a supermarket — some 5000 items on the average. But now — Colored Telephones! That's something new and different. Kroger's Southland store in Lexington, Ky., had colored telephones on display and available for the customers to take home on September 13th, 14th, and 15th.

The General Telephone System is conducting a national merchandising test to determine the effectiveness of going outside its regular channels in a sales promotion. General Telephone Co. of Kentucky and Kroger's was the scene of this test.

A full display of telephones in eight different colors was set up and a telephone company representative was on hand to help customers select their telephones. The colored instruments could be taken home by the customer, for installation at a later date, or an order could be placed in the store for future delivery.

Planning Ahead

TELEPHONE equipment recessed in kitchen cabinets, desks, and table tops are very much in the picture for homes and offices of the future, according to plans now under consideration by the Bell System.

Development of this type of equipment, another step forward in telephone appearance and convenience, has been discussed at meetings with a number of kitchen cabinet manufacturers. They believe a small self-contained unit housing hand set, dial, speakerphone, push-button keys, etc., would be most desirable. It could be suspended beneath a kitchen cabinet, or recessed in either cabinet, wall, or counter space.

Telephone units for office or household furniture would be basically similar, except for front plates. These would be provided specifically for the piece of furniture in which the station equipment is located.

As a result of these exploratory meetings, Bell Labs has been requested to develop such a package. Further discussion is planned with manufacturers as development work progresses.

Some Associated Companies have already collaborated with manufacturers in producing experimental models for the kitchen and office of tomorrow. Illinois Bell assisted a manufacturer of customer built kitchens in providing build-in communications equipment in an ultra modern kitchen. Among other features, it has loudspeaker and microphone control unit mounted on steel plates and recessed in the splash-plate of the sink cabinet. The kitchen units, installed in the home of the president of the manufacturing company, will be publicized in a national magazine.

"Every man has an equal chance to become greater than he is!"

NEW EQUIPMENT and NEW METHODS

By John G. Reynolds

Card - To - Card Switching System

A PRIVATE line telephone switching system for data transmission, nation-wide in scope, is now being engineered by A.T.&T. Long Lines for use by various technical services of the U. S. Army. Called CONUS — short for Continental United States — it will provide for the swift flow of statistical information for the overall administration of supplies.

Thirty-three military locations will be interconnected with switching centers at Oakland, Calif., Kansas City, Chicago, Philadelphia and Atlanta. Using IBM transceivers, it will be possible to send punched card data from any location to any other with a maximum of three switches.

Temporarily and in order to expedite the start of service, it will be handled through No. 5 switchboards at the switching points by telephone company personnel. At any location on the network, Army personnel wishing to send punched card data will reach the operator at the appropriate switching center and ask to be connected to the distant point. When telephone connection has been made, both locations will switch the circuit to card-to-card operation and data transmission will begin. It is planned to convert the system to customer dial operation when the necessary equipment can be made available.

The fundamental concept of CONUS originated with the Signal Corps of the Army as a result of new supply procedures, and the system is the outcome of considerable study and planning by Signal Corps and telephone company representatives. It will serve

"Aim To Get The Line Across"

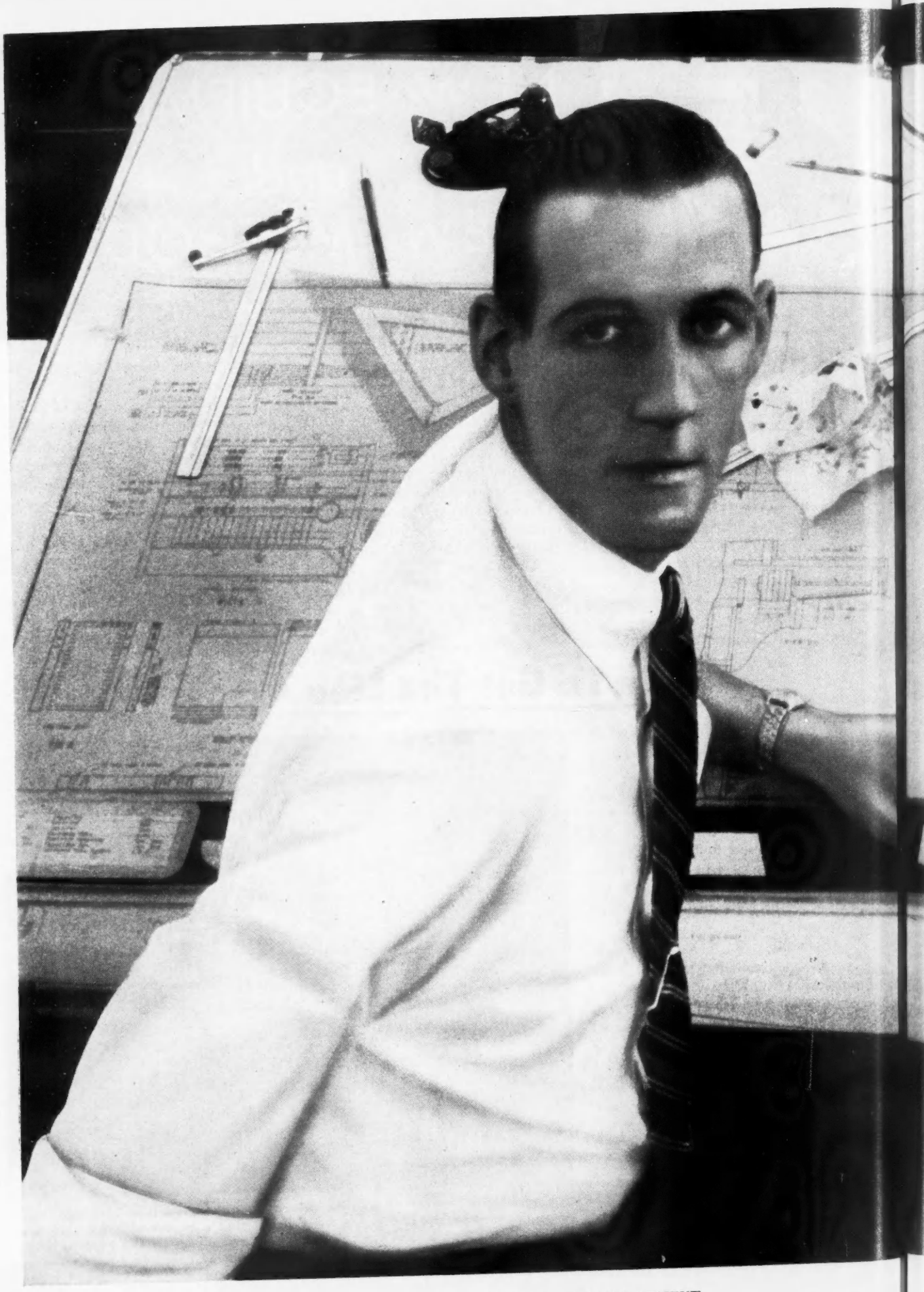
THE HARRINGTON & Richardson line-throwing gun is not new. It has been standard equipment with the U. S. Navy and Coast Guard for some time. It has proven its value in rescue operations at sea. And it is a welcome addition to the tools available to men, who, from time to time, must span seemingly impassable obstacles in the construction of outside telephone plant.

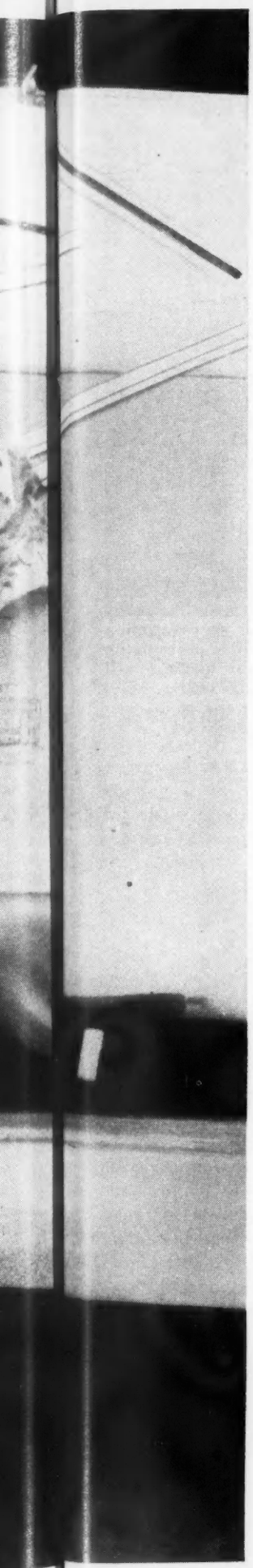
According to "The Telephone News," published by the Bell Telephone Co. of Pennsylvania, it was during the hurricanes of 1955 that the need for such a device was accentuated. And subsequent tests of the gun by plant supervisors resulted in the purchase of two complete line-throwing kits which, presently, are kept ready for use in Harrisburg.

The efficiency of the device and the simplicity of its operation make it all the move valuable. But, obviously, special training must be provided for men who will be responsible for use of the equipment.

Patterened, somewhat, on the prin-

The only thing "spent" on a firing operation is the propelling cartridge. The projectile is reusable, and it has been found that a re-wound nylon line has less resilience than a new one, thus reducing a tendency of the cord to twist. Here, JAMES J. DEVLIN is re-coiling a line with the re-winding machine supplied with the gun kit.





PORTRAIT OF AN INDUSTRY

The Draftsman

With T-square and triangle, the draftsman translates ideas, plans and specifications into drawings that will be followed in producing new and better telephone equipment for Bell telephone companies.

Like the lineman and the operator, the draftsman lends his special skills and talents to help achieve the common goal of the telephone industry . . . providing better telephone service for America.

Western Electric

MANUFACTURING AND SUPPLY UNIT OF THE BELL SYSTEM

ciple of an old-time muzzle-loading rifle, the device is a 45-70 caliber smooth bore hammer gun. Attached to the underside of the barrel assembly is a metal canister which accommodates a 550-foot spool of nylon cord.

When loading, the spool is first centered in the canister. Next, the free end of the nylon line is served through a slot, knotted, and fastened to a brass projectile 14 inches in length. Now, a cartridge is placed in the rifle to provide propulsion for the projectile.

Once the gunner is in position to fire, the projectile is inserted in the muzzle end of the gun barrel and seated squarely on the cartridge.

With the rifle couched firmly in his shoulder "pocket", and the sight set at an angle which will overshoot the target, all the gunner need do to send the projectile and line winging over 500 feet of space is to cock the hammer and pull the trigger.

Once the projectile has landed near the target, the line can easily be detached, secured to a suitable fastener and made ready for pulling facilities across the intervening obstacles.

A hand-operated re-winding machine, rigged with a geared shuttle to guide the line onto the spool, recoils the cord "clean" so that it will run free when fired again.

Those who have battled the elements on restoration work during devastating storms or, at one time or another, have shared the responsibility of bridging rivers, deep ravines or mountainous terrain with outside plant facilities will recognize the value of the line-throwing gun. Here, JAMES J. DEVLIN, Supervising Construction Foreman, Harrisburg, Pa., demonstrates the use of the new device on a river crossing.—Photo from "The Telephone News"

And the line-throwing gun kit is not cumbersome. With all items necessary to make several crossings, it has a gross weight of only 30 pounds.

The full potential value of the gun has been established. (See accompanying photographs on pages 109 and 112.) And one thing is sure, it will be a boon to Construction men whenever obstacles challenge the right-of-way.

New, Intercept Equipment

AS THE NAME implies, the new Universal intercept equipment determines the intercept number and intercepts any telephone number through the use of the computer principle as found within the patch-cord arrangement of the computer section. With this method of intercept any telephone number may be placed upon intercept by the patch-cord arrangement within the computer field, thus the location of the equipment or the line termination point or condition of the line is of no importance.

In distant dial trunk application the equipment may be located at any point that has access to the dial trunk repeaters or sending equipment into the office where the numbers are to be intercepted. The equipment may be placed in the toll center or toll point that is serving an outlaying exchange or a class five office and the second of intercept of a number within the outlaying office or class five office the trunk will be released and the inward operator or subscriber will be transferred directly into the intercept operator trunk or into the recorder announcer equipment.

The manufacturer, Universal Controls Corp., states that with the method of intercept, you require no return trunks into the attended office for intercept, the original trunk is released the moment the number is found to be upon intercept. Likewise, the condition of the called line or station is of no importance for the equipment will intercept the number regardless of condition of the line, be it busy or otherwise."

In addition to the above, any number in a distant exchange may be placed upon intercept up to 9,999 digits or any combination that may be dialed upon the 10 digit dial. The equipment may be placed in operation on a four-digit basis and by the throw of a switch may be converted into a five-digit switch thus absorbing the "X" digit of the class five office. The only connection needed in the installation is the loop of the talking path plus a dial leg or pulse lead to operate the complete counter equipment. Dial speeds of any known speeds are satisfactory for the computer counters from five to 20 ips.

The entire switch is constructed of standard telephone relays and equipment thus offering no new problems to the installation or service requirements of a telephone company. All unequipped levels or dead levels are fully protected and the switch is so designed not to follow a dial pull once the digit it has recorded is no possible intercept digit. By this method

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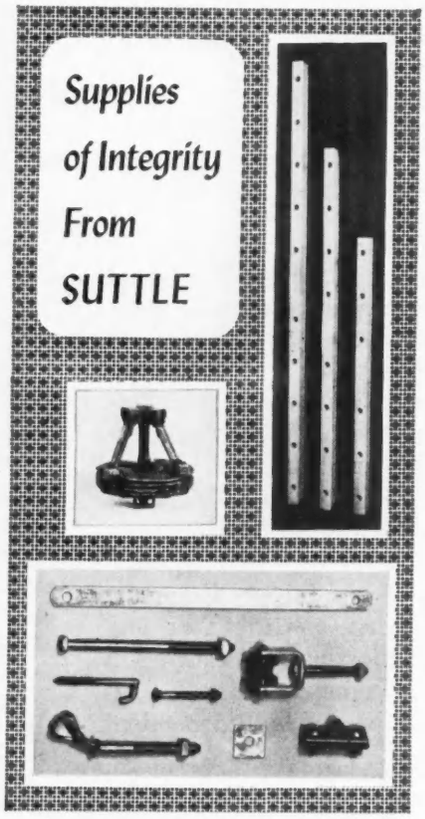
Looking back, it is easy to appreciate how much the early pioneers did for the Independent Telephone Industry. And to see how research and manufacturing companies helped to build a new industry into a dynamic, thriving enterprise.

But, in our industry it is even better to look ahead, for its growth and progress never stop!

Right now — *today* — associates of the International Telephone and Telegraph Corporation, a world leader in telephony are working, planning — providing faster switching and improved speech circuits. They are developing new techniques to make maximum use of the latest advances in the technology of communication.

As research center of IT&T in the United States, Federal Telecommunication Laboratories have dozens of new research projects in the working stage. They will make today's best communication systems *even better* . . . perfecting the application of electronics to national subscriber toll dialing . . . bringing to the Independent Telephone Industry, the most advanced developments of science.

Kellogg Switchboard and Supply Company is proud to be a partner with IT&T and Federal Telecommunication Laboratories in this drive for better communication . . . for the betterment of the entire Independent Telephone Industry.



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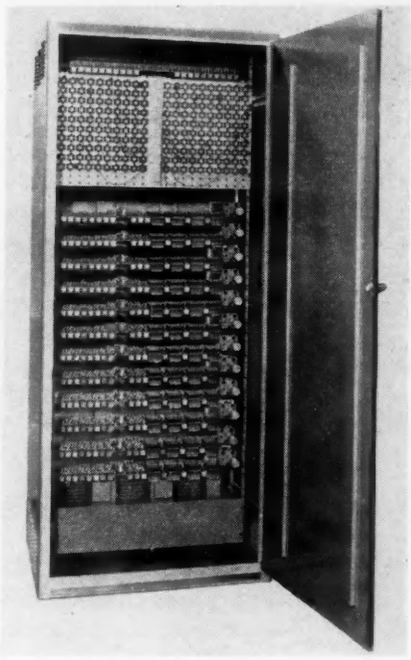
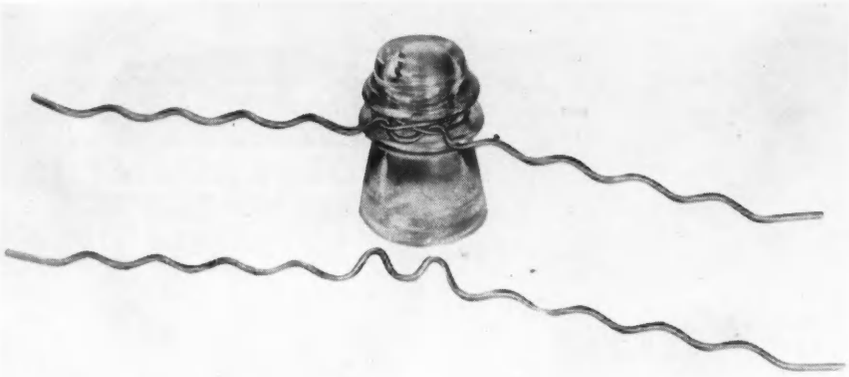
of operation, the switch should not be in use for the complete dial pulls from the calling station except for telephone numbers that are on intercept or possible intercept through the first three digits.

This switch is designed to cut-into two types of operation either operator service for number changes or the recorder system for dead levels and no such number requirements. In addition the switch may be wired to cut-into toll test equipment on the 1000 numbers if the conditions arises. In addition, any number in an office may be placed upon restricted service by the intercept equipment.

The fact that the equipment may be located at any point in the toll train and serve the end office offers an advantage in the fact the MDF or IDF of the end office are not wired in any way. In addition, the numbers for intercept may be placed upon intercept in the attended office at a moment's notice and the necessary removals or changes made in the end office at any time.



Pre - Tied Splint



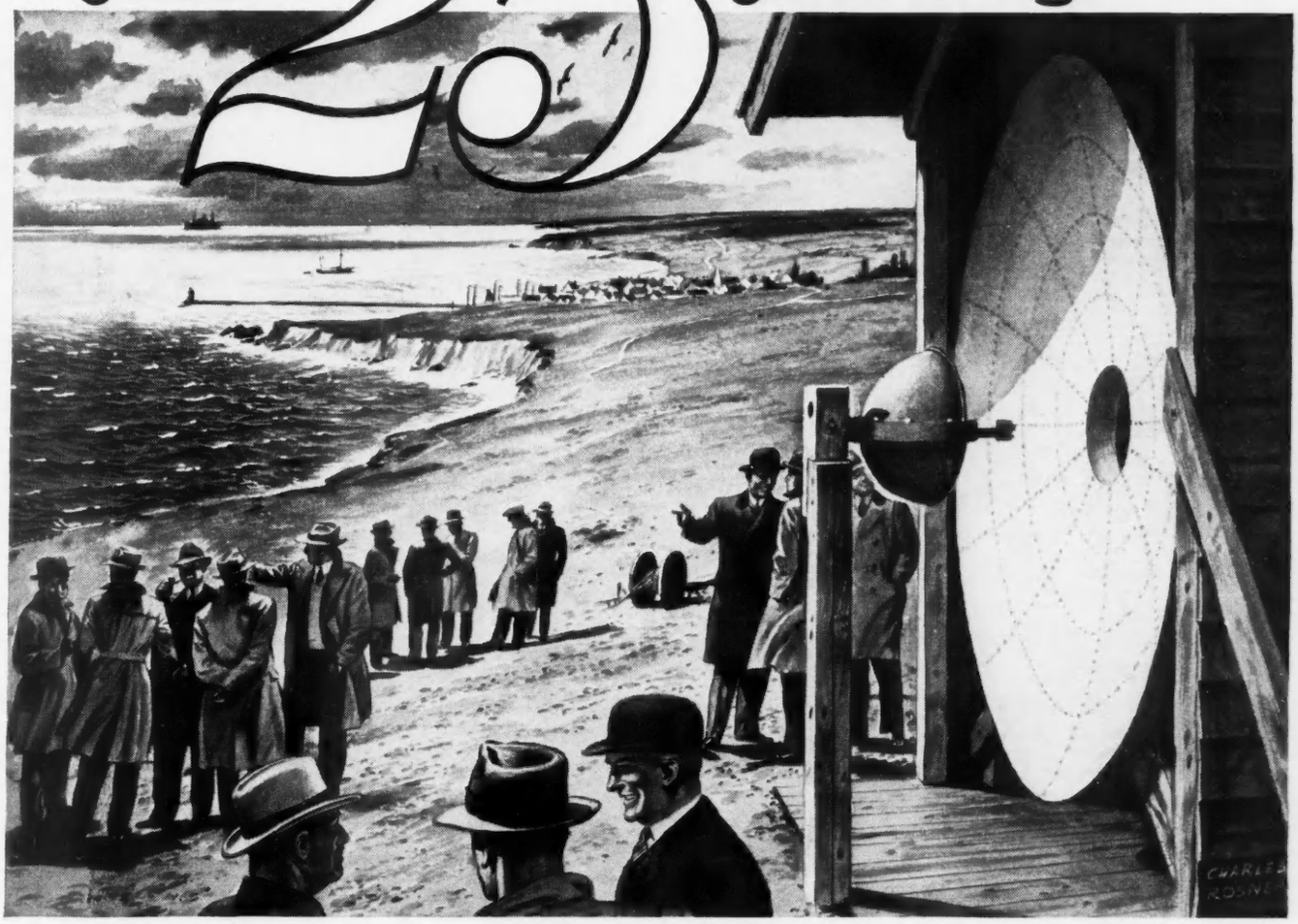
THE INDIANA Steel & Wire Co., Inc., Muncie, Ind., has announced a new development in tie splints — one that permits the splint to be applied to the insulator prior to installing the insulator to the pole. The result is a production method of applying tie-splints which in turn reduces time and labor costs and minimizes the chances of making poor ties. Crapo Pre-Tied Splints are available in galvanized steel for use with galvanized line wire and in copperweld for use with copperweld or copper line wire. The re-sagging problem is greatly simplified. Line wire can be removed, re-sagged and replaced without disturbing the tie wire.

New "Dial Exchange On Wheels"

A NEW ERA IN telephone service begins spreading cross country with several Bell System companies putting into operation their new "central dial offices on wheels." The Mobile CDO's, as they are called, serve rapidly expanding communities now hard pressed for telephone service and otherwise forced to wait as much as a year till permanent facilities can be provided.

The new mobile "CDO" is basically a complete, central dial office with a capacity ranging from 100 to as many as 600 lines, built into a specially engineered, drop frame trailer van. The all-steel, insulated van, designed and built by Highway Trail-

just 25 years ago



IT&T revealed to the world
the amazing possibilities in microwave communications

It was an historic day, 25 years ago, when IT&T engineers beamed a microwave telephone signal from Calais to Dover across the English Channel. A new age of communications was born with this first demonstration of the practicability of microwave transmission.

Today, microwave radio links span the United States, as well as many other countries.

In the brief time of one generation, pioneer IT&T achievements have rapidly expanded the knowledge and use of microwave. IT&T leadership provided techniques and equipment that helped make possible today's modern microwave radio links for telegraph, telephone, television, telemetering, aircraft navigation, and other vital services including over-the-horizon microwave—an exciting step toward the day when TV may span the oceans.

It's only the beginning. Each year, with world-wide facilities for research and manufacturing, IT&T engineers continue the development of new applications of microwave that will bring even greater benefits to industry, national defense, and your daily life.

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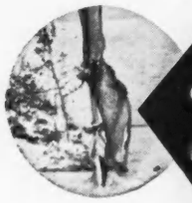

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ILLINOIS BELL Telephone Co., Mobile C Dial Office, containing a complete, automatic dial exchange for 400 lines. The trailer unit is a specially designed, drop frame, all steel, air conditioned van manufactured by Highway Trailer Co. The new unit is shown arriving on site at Schaumburg Township, near Arlington Heights, Ill.

er Co., Edgerton, Wisc., is 37 feet long, eight feet wide, and measures 12 feet, six inches high from the road. Inside the unit is dial equipment identical to that found in permanent central offices.

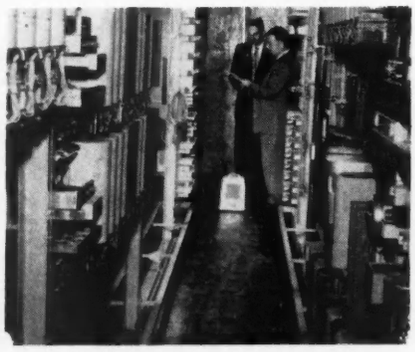
At a total cost of as much as $53,000 each, the new air-conditioned mobile units can be equipped by Bell System companies to handle as many as 1200 telephones. Among the first in active operation, one mobile CDO has been put into service at Garden City, Michigan, for Michigan Bell Telephone Co. early this year, another has been cut over at Schaumburg Township, near Arlington Heights, Ill., for the Illinois Bell Telephone Co.

The new mobile telephone exchange was first developed by engineers at AT&T and Western Electric Co. Orders for the specially built units were soon placed with Highway Trailer Co. by Illinois Bell, Michigan Bell and New Jersey Bell. Present plans call for a total of four such units in operation in Illinois and four units for Michigan Bell. New Jersey Bell has also received delivery of their initial Highway Trailer Van for the construction of a similar unit.

The new units will be rolled into new communities as the Bell Telephone Companies' answer to the problem of providing immediate service, to areas which grow virtually from cornfields to populated communities almost overnight.

Mobile CDO's have a two-fold purpose. Primarily, they provide temporary facilities for new communities within weeks and months, rather than the year or more required for engineering and construction of permanent exchange buildings. The new Mobile Central Dial Offices will have no permanent homes. They will serve only until permanent facilities are available when they will be moved to other needy areas.

A second important aspect of the new development which uses trailer vans as telephone exchanges is their potential for emergency service during civil defense crisis or other disasters. The dual role of better service for the public and availability in time of major disaster brings into sharp focus the advance planning which has earned the companies an admirable reputation for public service.



VIEW TOWARD REAR, inside, showing officials of Michigan Bell Telephone Co. during a recent operating check on their new Mobile Central Dial office now in service at Garden City, Mich.

In Flint, Mich., a Michigan Bell employe was showing a group of small children — 3rd graders — through the MBT building. After seeing the operators at switchboards, one boy asked: "Do all the operators just wear one ear muff?"

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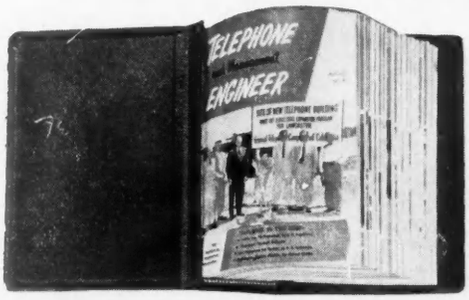

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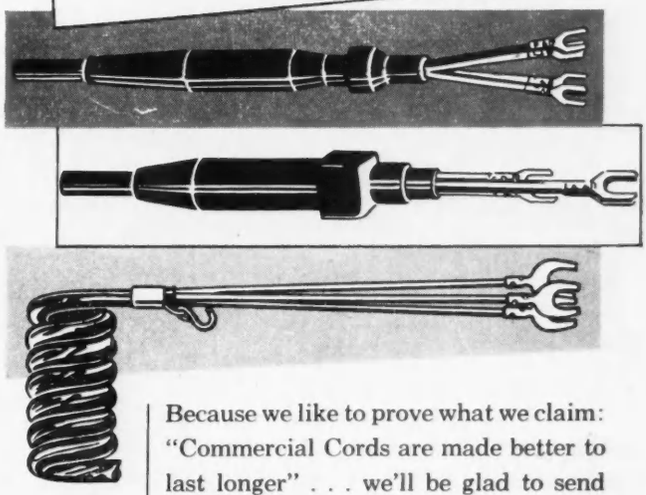

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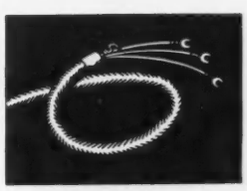

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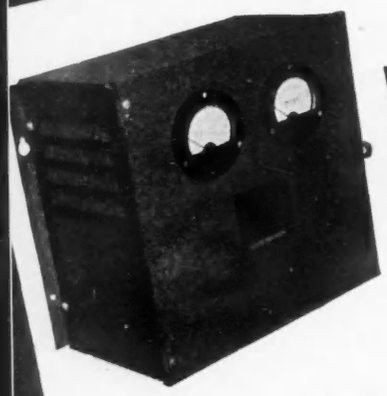

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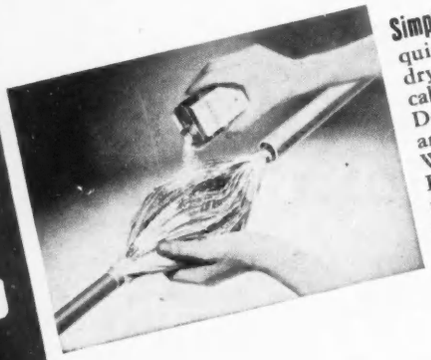

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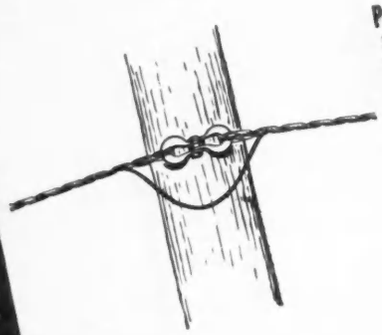

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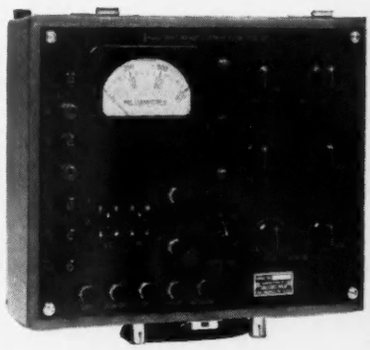

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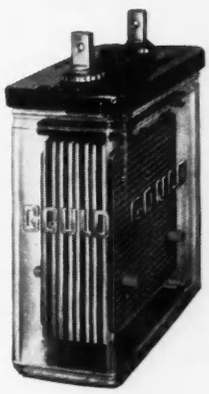
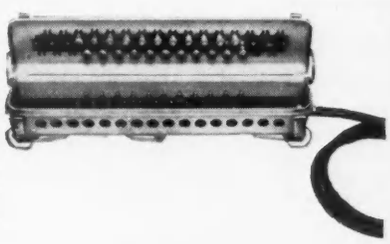


The Cook Stranterm available with 11, 16, or 26 pair cable stubs. Only strand mounted cable terminal designed for a flexible system of selective discharger protection. Supplied with either plastic or lead-sheathed cable stub. COOK ELECTRIC CO.



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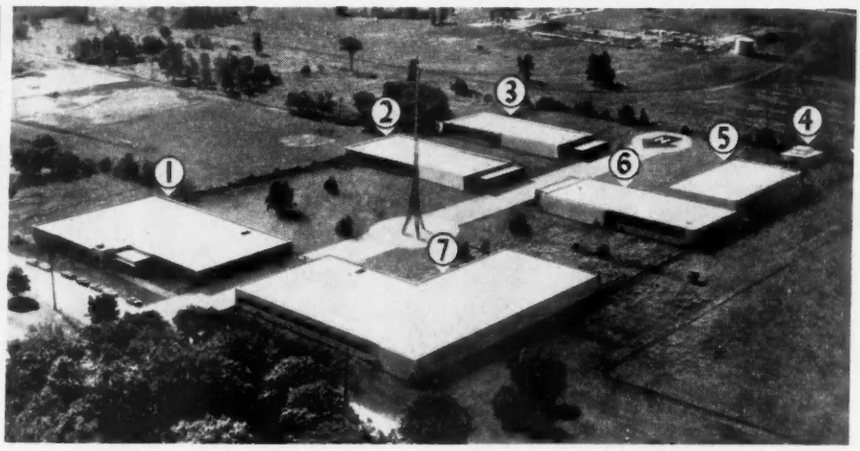
Division of Instrument Laboratories
Chicago 10, Illinois



ARCHITECTURAL RENDITION of present and scheduled buildings for the new Cook Technological Center at Morton Grove, Ill. Covering 158,000 square feet of floor space on 15 acres, the Center will include a heliport, experimental tower (center) and paved parking for 1,200 cars. Building identifications and scheduled occupancy dates are the following: (1) Cook Research Laboratories administration building — Oct. (2) Inland Testing Laboratories administration and reliability test section building — Oct. (3) Inland Testing Laboratories environmental laboratories building — June. (4) Inland Testing Laboratories radiation test building — March. (5) Inland Testing Laboratories heavy environmental test building — June. (6) General Services building — Jan. (7) Cook Research Laboratories general laboratories building — Jan.

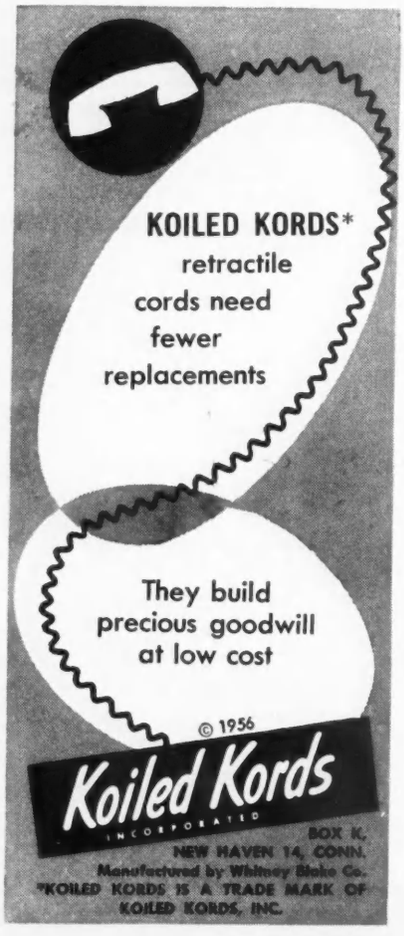
Cook Electric Opens New Technological Center

ONE OF THE largest industrial science centers in the United States was opened by Cook Electric Co. this month, it was announced by Walter C. Hasselhorn, president.

The new Cook Technological Center will be operated by more than 1,000 research scientists, engineers, technicians and other staff personnel, working in seven single story buildings with a total floor area of 158,000 square feet.

The seven air-conditioned and acoustically treated buildings that are now scheduled and under construction are located on a 15-acre tract in Morton Grove, Ill., a suburb northwest of Chicago. Included in the center are a heliport and paved parking facilities for 1,200 cars.

Cook Electric Co. Divisions include: Cook Research Laboratories (basic and applied research in nuclear physics, servo-mechanisms, upper air studies, weather reconnaissance, radar, sonar, rockets, guided missiles); Inland Testing Laboratories (testing of components for the company, other manufacturers, and the Defense Department); Electronic Systems (engineering and production design of components and test equipment for military aircraft and guided missiles); Diaphlex (aircraft components manufacture); MagniLastic (stainless steel and alloy specialties manufacture); Wirecom (wire communications equipment manufacture); and AirMod Corporation, Vandalia, Ohio.



EARTH BORING MACHINES ... *our business*

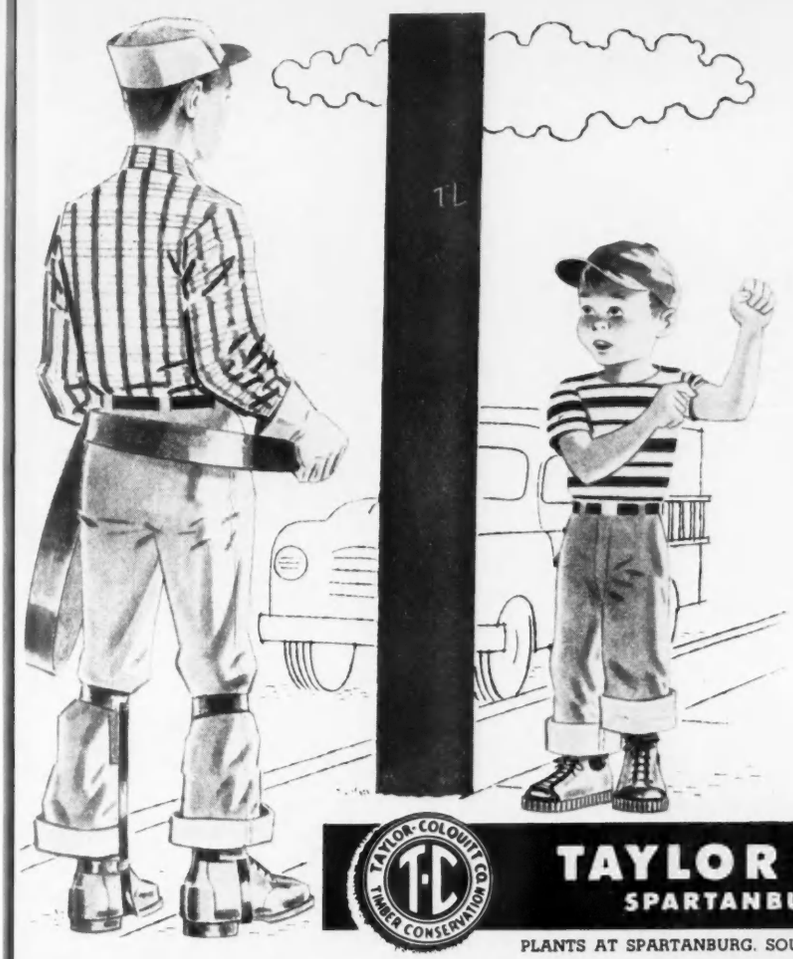
We manufacture Sterling Hydraulic Control Earth Boring Machines in sizes and models to fit your job and budget.

Sterling Model "A" for heavy duty work
Sterling Enterpriser 6 cylinder model
Sterling Enterpriser 4 cylinder model
Sterling Prospector, built for REA and telephone work

Complete parts are available for Sterling, Jaques and other make earth boring machines. We completely rebuild and repair all make diggers in our well-equipped shops.

WYOMING VALLEY EQUIPMENT DIV.

714 WYOMING AVENUE KINGSTON, PA.



When I grow up I want to be strong like a T-C pole

You're right, son . . . T-C poles are strong . . . and also long lasting. Strong because they're rigidly selected from the finest stands of Southern Pine . . . long lasting because they're given the most effective preservative treatment so far developed by modern technology. When maximum service life is desired it's a good idea to specify T-C Pressure Treated poles.

T-C Pressure Treated poles are distributed by
AUTOMATIC ELECTRIC SALES CORP.
and LEICH SALES CORP.

TAYLOR-COLQUITT CO.
SPARTANBURG, SOUTH CAROLINA

PLANTS AT SPARTANBURG, SOUTH CAROLINA AND WILMINGTON, NORTH CAROLINA

BUCKEYE LEADS THE SUPPLY FIELD!

NOW AVAILABLE

NEW Oval Twin Construction INSULATED PARALLEL LINE WIRE

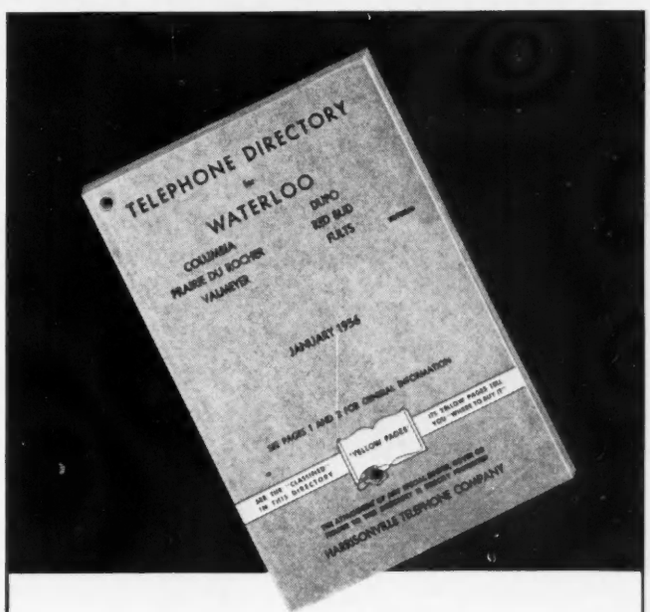
AVAILABLE IN 3 TYPES OF CONDUCTORS
- No. 14 AWG Copperweld
- No. 12 AWG Copperweld
- .083 Galvanized Steel

- **REPLACE OPEN WIRE RUN CONSTRUCTION**
- **USE FOR LONG-SPAN SERVICE WIRE DROPS**
- **CUT COST—SAVE TIME**

Here at last! High strength construction with 2 parallel conductors encased in a highly weather-resistant black Polyethylene insulation. Gives greater and longer service than open wire. Cuts costs to a minimum. It's NEW! It's "HOT"! It's available now at Buckeye!

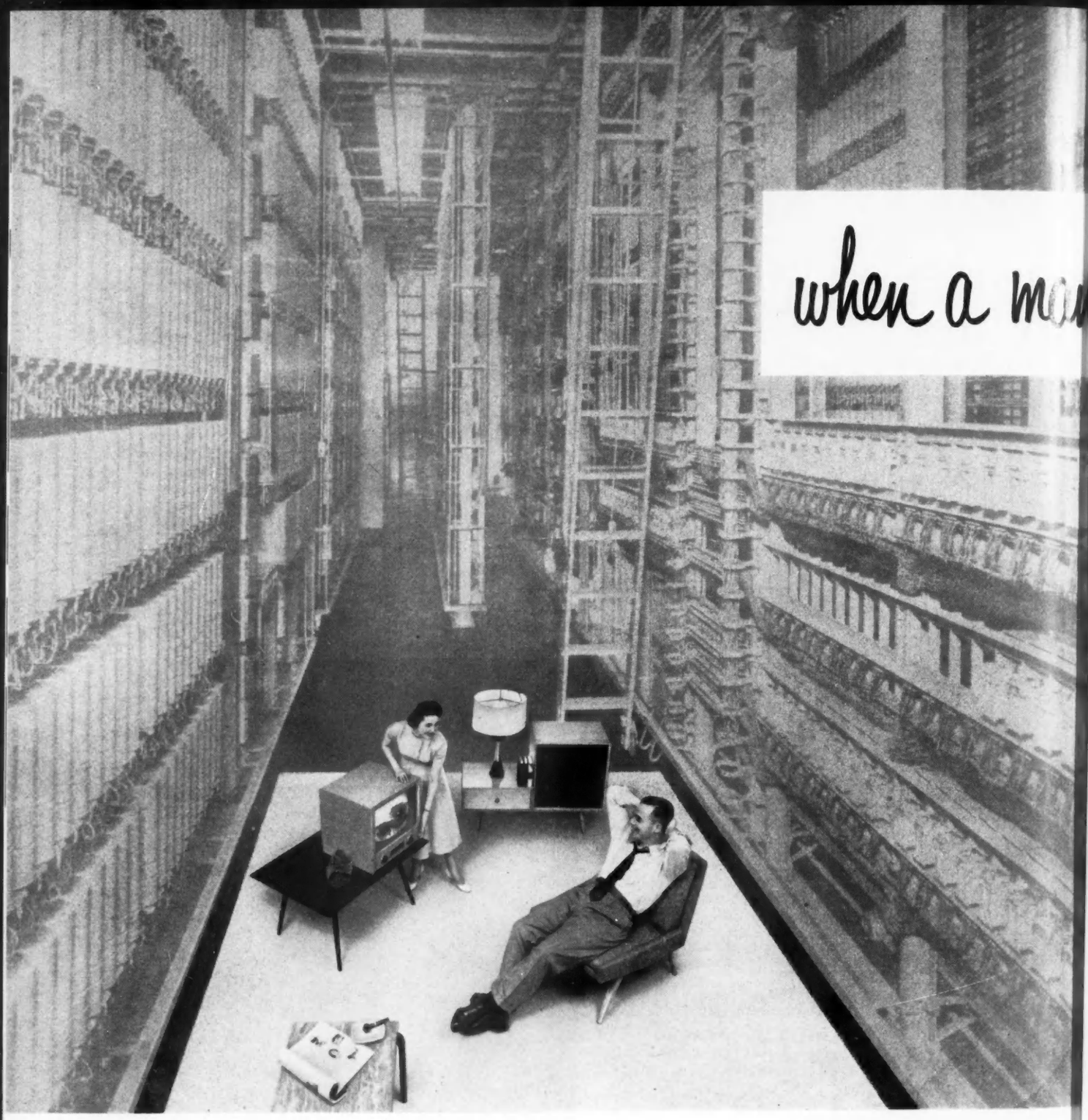
Send for Circular 356

BUCKEYE TELEPHONE & SUPPLY CO.
1250 Kinnear Rd. Columbus 21, Ohio



A directory for the
Harrisonville Telephone Company, Waterloo, Illinois
printed by

R. R. DONNELLEY & SONS COMPANY
350 East Twenty-second Street, Chicago 16



AUTOMATIC ELECTRIC

ORIGINATORS OF THE DIAL TELEPHONE

...as to live with it, he plans it right!

There's something reassuring about the way Automatic's people work with you to plan your new Strowger exchange. They act just as though they were going to have to live with it.

Because they are!

They're not through with you at cutover. They're going to be at your call all through the long, long life of your exchange.
So they plan it *right*. Drawing on over 60 years of successful dial exchange experience—a resource that only Automatic Electric can offer—these experts smooth your path, boost you over each hurdle.
Let's see just who they are, and what their help means to you:

Your Automatic Electric Salesman

He knows you and the problems in your area. His practical telephone-man's approach to them can do much to insure your success.

Automatic Electric Staff Engineers

These experts help in the initial planning of your exchange—the traffic survey, growth survey, method of handling toll traffic, building-site selection, building planning, and equipment selection. They suggest the most efficient and economical solutions for each problem, and provide amply for present requirements and for future expansion.

Automatic Electric Design Engineers

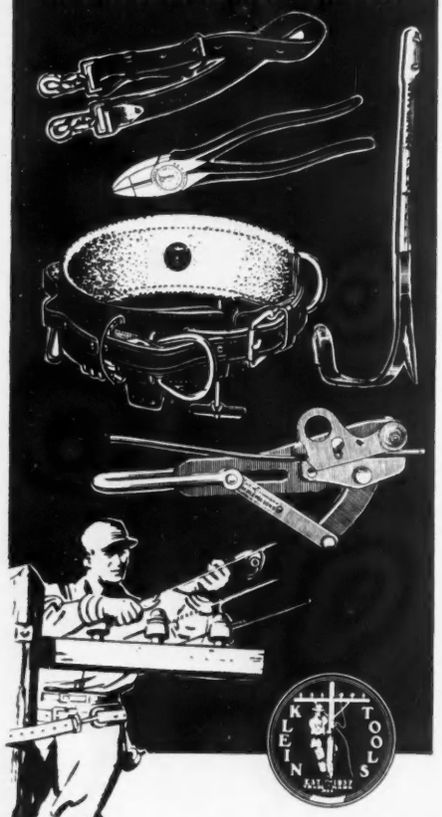
Each an expert in his own specialty, they select for your exchange the proven arrangements and circuits that will work best for you. They design new arrangements to meet new needs. Then the equipment is made under Automatic's rigid quality control standards, with every precaution taken to insure its being a 100% success.

Automatic Electric Operating Engineers

Skilled consultants, they provide you with a free advisory service covering cable records, billing, routining, cable plant design, and service problems. They help you set up operating procedures which assure that your exchange will afford you a maximum return on your investment.
Call us when you plan to convert to dial. We'll be there...pronto! Address: *Automatic Electric Sales Corporation, 1033 W. Van Buren St., Chicago 7. Or call HAymarket 1-4300.*

KLEIN

FOR GREATER SAFETY, BETTER PERFORMANCE



Klein was supplying quality tools and equipment to linemen and electricians when the industry was in its infancy.

Today, as when the first wires were strung, Klein leads in producing tools and equipment for the electrical industry.

The third and fourth generations of Kleins are still adhering to the quality standards set a century ago. The new Klein plant, equipped with the latest in manufacturing facilities, assures better, safer equipment, wherever power lines or communication lines are strung.

Write for your FREE copy of the Klein Pocket Tool Guide listing Klein equipment and giving valuable information.

Mathias Established 1857 KLEIN & Sons Chicago, Ill., U.S.A.
7200 McCORMICK ROAD • CHICAGO 45, ILLINOIS

Wisconsin Co-Op Buys Four Independent Companies

THE WISCONSIN Public Service Commission has authorized the Citizens' Telephone Co-operative, New Auburn, Wisc., to buy the New Auburn Telephone Co., Canton Telephone Co., Dover Telephone Co. and Chetek Farmers' Telephone Co.

The Dairyland Telephone Co. in Waukesha county was authorized to issue $14,925 of common stock to finance the acquisition of the Red River Telephone Co.

Stromberg-Carlson Names Two Sales Representatives

APPOINTMENT of Robert E. Wohlberg and S. W. "Bill" Bailey as telephone sales representatives in the Pacific Coast territory of Stromberg-Carlson, a division of General Dynamics Corp., has been announced by T. C. Thompson, general sales manager of Stromberg-Carlson's Telephone Division.

Both men have completed a training course at the company's Rochester headquarters, and have returned to their respective territories. Wohlberg

ROBERT E. WOHLBERG

will work in the San Francisco area, and Bailey has been assigned to the Idaho, Utah and Montana territory. These appointments constitute additional Stromberg-Carlson representation, to provide more complete service to telephone customers in the fast-growing West, Mr. Thompson said.

Bob Wohlberg came to Stromberg-Carlson from Lincoln, Neb., where he was born, educated, and held his first job with the Lincoln Telephone & Telegraph Co. Beginning as a mail-

MARKWELL TELEPHONE TACKER

SAVE OVER 50%
LABOR & MATERIALS
MARKWELL FREE SERVICE

Factory Service and Over-haul at No Charge and Returned Prepaid When Staples Purchased From Markwell

ONLY $11.95

"HOLDS WIRE SAFE AND SECURE"

For "JK" Wire ....Use L3B 5/16" Staples
up to 11 Strand Cable Use L3M 7/16" Staples
Up to 16 Strand Cable Use L3D 9/16" Staples

OTHER USES — Stapling Drop Wire, Metal Numerals, Signs, Screens, Building Repairs and Maintenance, Etc.

SIZE	8 per pkg.	15 per pkg.	30 per pkg.
L3B 5/16" Leg	$2.80	$2.60	$2.40
L3M 7/16" Leg	3.05	2.85	2.60
L3D 9/16" Leg	3.30	3.15	2.95

STAPLES PER PKG. — 5000 . . . Sizes Can Be Assorted For Quantity Price . . . Discounts In Larger Quantities.

MARKWELL MFG. CO., INC.
Established 1919
Industrial Products Div.—Dept. 77
200 Hudson St. New York 13, N. Y.

NATCO
CLAY CONDUIT

The proved and standard protection for Underground Telephone Cables. Highest quality and full line of shapes.

NATCO CORPORATION
327 Fifth Avenue, Pittsburgh 22, Pa.

NOW... CHANCE PIKE POLES ARE LAMINATED!

For greater uniformity... greater rigidity!

Now... Chance Pike Poles are made by bonding together carefully selected Douglas fir boards. Laminated Pike Poles have many advantages over the old, single board pike pole. They're more rigid. They're more uniform. Each board reinforces the other.

SAFETY PIKE — *Point can be reversed as shown in circle, for safety in handling and transporting between jobs.*

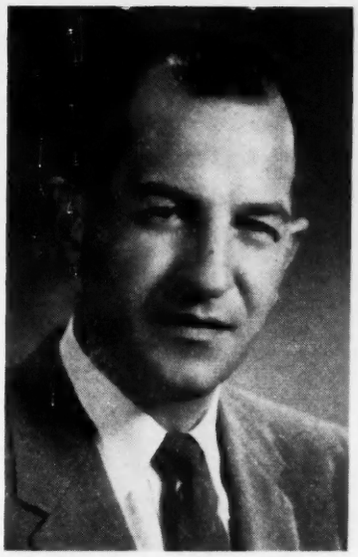
PLASTIC PROTECTED

Chance *laminated* Pike Poles are available with tough Maplac plastic coating. Splintering of the wood is eliminated. Lost-time hand injuries, caused by splinters, are avoided. *IT PAYS TO BUY HIGH QUALITY IN A PIKE POLE.* Only on a Chance pike pole will you find the steel reinforced butt which protects the end of the pike. And only *laminated* Chance pike poles are available with Maplac protection.

Write for the full story today.

CT55-1A

A·B·CHANCE CO·
CENTRALIA, MISSOURI
SAN FRANCISCO, CALIFORNIA



S. W. BAILEY

boy, he became successively warehouseman, shopman, installer, draftsman, and equipment engineer. In the latter position he worked directly with Paul Henson, chief engineer.

"Bill" Bailey joined Stromberg-Carlson after many years of experience in the telephone industry. After a boyhood in Manitowoc, Wisconsin, he went to college at the University of Alaska, and stayed on with the Public Utilities Co., at Ketchikan, Alaska, as lineman, installer, and central office equipment man.

During the war he changed jobs, but not location, serving the Coast Guard in Alaskan waters as Electrician's Mate, 1/C. He returned to the Ketchikan Public Utilities Company in time to be of valuable assistance to B. I. Palmer during installation of the XY dial system for the city.

In 1954 Bill left Alaska to become plant supervisor for Milton Larson, of the Farmers Mutual Telephone Co., Lynden, Wash. The company had just embarked on a large dial conversion program involving 10 exchanges. When Bill left to join Stromberg-Carlson in May of this year the program had been completed.

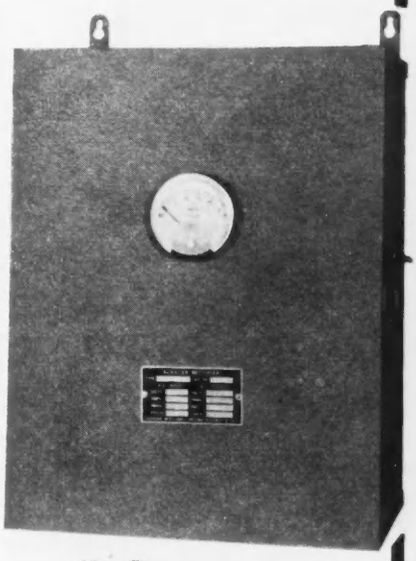
Whitney Blake Promotes Bunnell and Gobeille

TWO CHANGES that effect the sales staff of Whitney Blake Co., New Haven, Conn. wire manufacturer, have been announced by John Brown Cook, president.

Wesley C. Bunnell has been promoted from assistant sales manager to sales manager and Harold L. "Bud" Gobeille has been given the responsibilities of advertising and

Dependable Power

for Years- and Years- and Years- of Service!



Schauer
ELECTROX

BATTERY ELIMINATORS
BATTERY CHARGERS

In sizes and capacities to meet every telephone power requirement.

See your Schauer Jobber. Write for Bulletin 4516.

RECTIFIER DIVISION
SCHAUER
MANUFACTURING CORP.

4516 Alpine Ave., Cincinnati 36, Ohio

CHANCE PLATFORMS

reduce fatigue . . . make work areas more accessible

Here's the platform that puts your linemen at ease high above the ground because it is the strongest, safest, sturdiest platform available anywhere. It makes work, away from the pole, more accessible and reduces lineman fatigue on prolonged jobs.

Has these Saftey Features:

Safety Locking Chain Tightener—attaches quickly and easily . . . locks securely so that platform can't be loosened accidentally. **Grip-Tread Surface**—platform is topped with Goodyear Grip-Tread for a safe, sure footing. **Superior Strength**—platforms are made from carefully selected Douglas Fir boards . . . each board is individually tested before shipment. **End Cleats for Added Safety**—end cleats show lineman his position on the platform.

The Chance Utility Platform, a 30-inch lightweight platform tested for 750 pounds, is ideal for telephone line splicing or similar time consuming jobs. Longer, adjustable or pivot platforms are also available from your Chance Distributor.

CT55-14

A·B·CHANCE CO.
CENTRALIA, MISSOURI
San Francisco, California

sales promotion manager in addition to his duties as field supervisor.

Mr. Bunnell began his employment with Whitney Blake as a production worker early in 1937. In the following years he served in the capacities of finished product inspector, laboratory technician and production foreman. He joined the sales staff in 1943. In 1945 he entered the U. S. Army and returned to his position in the sales department the following year. He was advanced to the position of assistant sales manager in 1952.

Mr. Gobeille served three years with the U. S. Army until 1946 after which he was employed by Williams & Co. as salesman in the Cleveland area. In 1951 he joined the Cleveland Hy-Pressure Casting Co. in the capacity of sales manager. The following year he was appointed to the Whitney Blake sales staff in charge of the Cleveland office. He was transferred to the home office to take over the duties of field supervisor in 1955.

Both men work under the direction of J. Marshall Taylor, vice president in charge of sales.

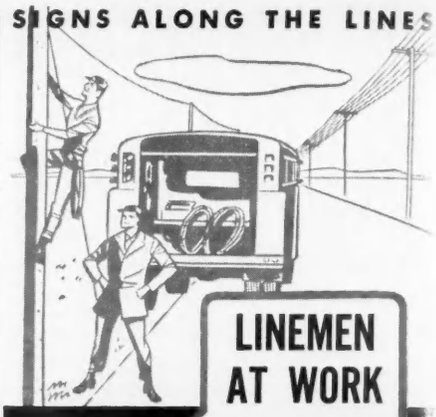
Stromberg-Carlson Names New Sales Representative

JAMES V. DITTO has been appointed sales representative of the Telephone Division of Stromberg-Carlson in Virginia, Eastern Tennessee and Northern Georgia, according to an announcement by T. C. Thompson, telephone sales manager.

Mr. Ditto has completed a training course at Stromberg-Carlson's Rochester headquarters, and has returned to his home at 1559 Garden Drive, Kingsport, Tenn., to begin his

JAMES V. DITTO

SIGNS ALONG THE LINES



LINEMEN AT WORK USING Crapo GALVANIZED GUY & MESSENGER STRAND

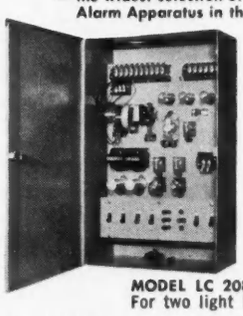
Positive strength and durability economies, combined with the superior qualities of steel, make *Crapo* Galvanized Steel Strand a rugged performer. The heavy, ductile, tightly-adherent galvanized coating — applied by the famous *Crapo* Process — provides dependable protection for the steel, prolongs the expectant life of the strand. There is a size and grade of *Crapo* Galvanized Strand for every practical need.

INDIANA
STEEL & WIRE COMPANY, INC.
Muncie, Indiana

COMPLETE-PACKAGED . . .

OBSTRUCTION LIGHTING CONTROL and LAMP FAILURE ALARM UNITS
for unattended TELEPHONE COMPANY MICROWAVE RADIO-RELAY stations.

— by HUGHEY & PHILLIPS, INC.
— your most dependable source of Obstruction Lighting Equipment
— the widest selection of Control & Alarm Apparatus in the Industry.



MODEL LC 2082
For two light levels

MODEL LC 2081 — for single light level
MODEL LC 2083 — for three light levels.

These units provide a separate signal for failure of each top lamp and include maintenance-test switches. Also available with photo-electric control for tower obstruction lights.

Write today for information regarding your specific problems.

HUGHEY & PHILLIPS, INC.
Manufacturers of
300MM Code Beacons, Obstruction Lights, Photo-Electric Controls, Beacon Flashers, Microwave Tower Control & Alarm Units Remote Lamp Failure Indicator Systems, and Complete Tower Lighting Kits.
3300 NORTH SAN FERNANDO BLVD.
BURBANK, CALIF.

work of serving the company's telephone customers in that territory.

Prior to joining Stromberg-Carlson, Mr. Ditto had more than 10 years of experience in the telephone industry. He entered the employ of the Southwestern Bell Telephone Company in 1945, and within a year became construction supervisor, serving in that capacity for seven and a half years. Later he was plant superintendent of the Van Horn Telephone Company, Van Horn, Texas, for two years. For the past year he had been a field representative of another manufacturer in Virginia and Kentucky.

Sequoia Process Corp. Opens Eastern Sales Division

SEQUOIA PROCESS CORP., manufacturer of plastic-insulated wire and cable at Redwood City, Calif., has announced the opening of an Eastern sales division at Newark, N. J. under the management of Emmette F. Gumm.

Office and warehousing space has been leased at 17 William Street, Newark, with a combined area of 1300 square feet. Sequoia's Eastern sales area will run north to Maine, south to Baltimore, and west to the Western Pennsylvania and West Virginia line. The new Newark office will offer service and will warehouse a broad range of wire products.

Mr. Gumm, the new Eastern Division sales manager, was formerly sales manager for Cook Manufacturing Co., of Paterson, N. J., makers of wire fabricating equipment. He previously was assistant production engineer for Wallace & Tiernan, Bellville, N. J.

Suttle Announces New Dust Collector

SUTTLE EQUIPMENT CO., manufacturer of Dust-Sorb, the electro-mechanical dust-collector for attended or unattended telephone exchanges and community dial rooms, has announced the introduction of a new electro-static dust-collector of the parallel plate type driven with a 13,000 volt power-pack.

Although of relatively high voltage, the amperage is less than from a 110 volt light circuit. The portable electrostatic unit combines medium price with extremely high efficiencies. For details write Suttle Equipment Co., 135 S. LaSalle St., Dept. TE&M, Chicago 3, Ill.

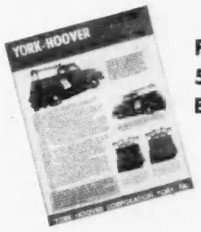
How to Earn
EXTRA DOLLARS
in Operating Savings

YORK-HOOVER
model 56LGU78
repair and cable maintenance body

The Model 56LGU78 Body is an exceptionally practical unit for installation and repair jobs and cable work as well.

This one man cable maintenance body or general repair unit is practical because ample drawer and shelf space is provided for carrying necessary materials and tools, while the entire body loading space is available to transport other necessary equipment.

Lightweight, yet rugged construction and functional capacity are two reasons why you should investigate the Model 56LGU78 Body Unit . . . built and backed by York-Hoover . . . a famous name in the Transportation Industry since 1892.



For the complete Model 56LGU78 story, write for Bulletin No. 938 today!

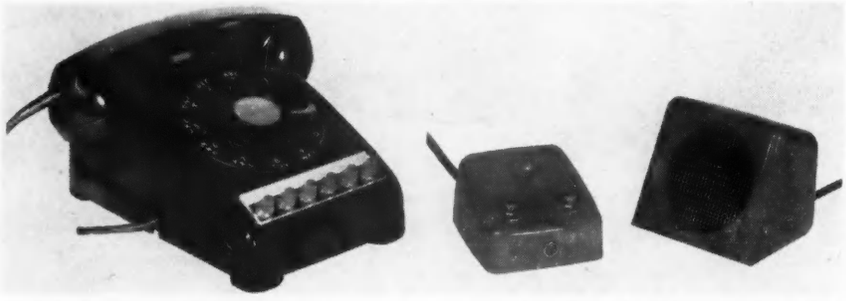
Interior of body showing installation of one man splicers unit adaptation which is available under Optional Equipment. Ladder brackets which are illustrated are Type OH78-220 for two extension ladders.

The above shows body with easily operated sliding roof, locked in closed position. Drop gate is particularly rugged for hard usage. Note optional rear bumper and LB towing hook installation.

BODY DIVISION
YORK-HOOVER CORPORATION
YORK, PENNSYLVANIA

NEW PRODUCTS' SHOWCASE

To obtain complete data on products and services described in this department please fill out and mail the Reader's Service order blank shown on the opposite page.



Loud-Speaking Telephone Adapter Set

A LOUDSPEAKING telephone adapter set that converts a multi-line telephone to loudspeaking service, has been announced by Automatic Electric Co.

Developed specifically for use with key-type telephones such as the Western Electric 1A, the adapter consists of three components that provide "hands-free" service without interferring with the operating features of the keyset system:

(1) An adapter unit, 4"x3¼"x-1¼" in size, contains the "on" and "off" buttons, volume control knob, signal light and microphone.

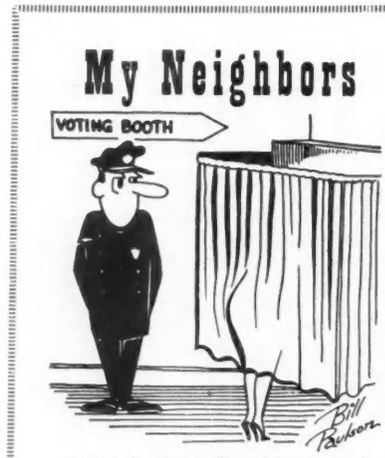
To operate, the user selects a line or trunk in the usual manner, presses the "on" button and the microphone picks up his voice at arm's length. A signal light tells when the loudspeaking service is available and also reminds the user to push the "off" button when conversation ends.

(2) The 3½"x3" loudspeaker enables the user to hear the other party. Volume, controlled by a small knob on the adapter unit, can be turned down in a quiet office, or turned up when others in the office want to hear what is said. To keep a conversation private, the user lifts the handset, pushes the "off" button and both microphone and speaker are cut off. To switch back to loudspeaking service, the user pushes his "on" button and replaces the handset.

(3) The third component is the unit that powers the loudspeaking service. Measuring 9½"x-6½"x4", it mounts inconspicuously under a desk, and plugs into a 110-volt, 6-cycle outlet.

Designed primarily for use with the Western Electric 1A instrument the adapter does not work with all key-set instruments. If a schematic circuit of a particular telephone is furnished, the manufacturer will advise whether the adapter set will work it or not.

For this, and other information, write Automatic Electric Sales Corp., 1033 West Van Buren St., Dept. TE-&M, Chicago 7, Ill., or *Check New Product* 986.



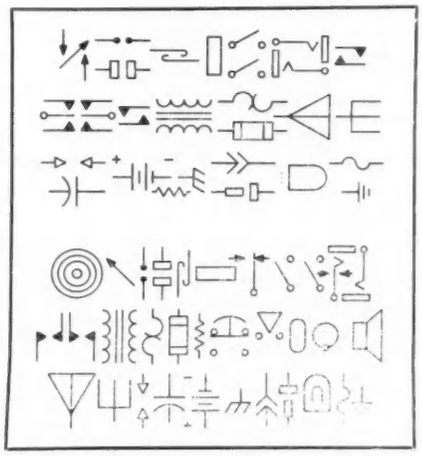
"My husband said to vote for our pocketbook — but I don't see it listed here!"

Template For New Electrical Symbols

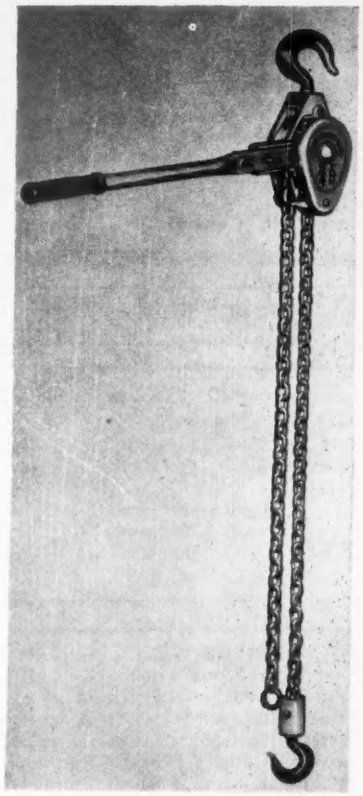
KEUFFEL & ESSER CO. has added a new electrical symbol template to its Leroy lettering and symbol-drawing equipment that conforms to the new and revised Graphical Symbols prepared by the American Standards Association. Use of these up-to-date symbols is now required to meet military specifications.

Approximately 60 per cent more symbols are included on the new Leroy template than on the old one, which K & E has produced for many years. The new templates are expected to replace the earlier version in general use.

The Leroy electrical symbols are available in three sizes: one as shown in the American Standards Association Bulletin; another one half again as large; and a third that is twice as large.—For complete data. *Check New Product* 987.



New electrical symbol template.



Lever Hoist

A NEW development in hoisting equipment . . . a ¾ Ton Lever Hoist using only 1/3 arc movement for operation . . . has been announced by Thern Machine Co.

This unit is compact, portable, sturdy, light in weight, and is designed for angular, horizontal, or vertical lifting.

New feature is operation of the Thern Lever Hoist with only 1/3 of the total arc movement of the lever. This enables the hoist to be operated in tight or limited quarters. In addition a special type ratchet with two ratchet levers in constant contact with the ratchet wheel, keeps the wheel under control at all times and gives positive assurance against slipping.

The new lever hoist also has a chain which provides perfect flexibility for more pulling or lifting jobs. Further it will not get dirty nor clog. Operation always remains smooth and positive.—For Complete Data, *Check New Product* 988.

INDUSTRIAL PRODUCTS CO., has announced a new one-piece suit for the protection of workers who are subject to the splash and spray of oils and acids. The base fabric is a close woven cotton — Neoprene coated on both sides. The suit provides full body protection. Check New Product 989.

THE BUYERS' GUIDE

ADVERTISING, Directories — *General Telephone Directory Co., 1800 Busse Highway, Des Plaines, Ill.*—[ADV. 1]

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CORDS, Switchboard & Telephone — *Runzel Cord & Wire Co., 4727-31 Montrose Ave., Chicago 41, Ill.*—[ADV. 5]

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POLES, Southern Yellow Pine — *Texas Creosoting Co., Orange, Texas.*—[ADV. 10]

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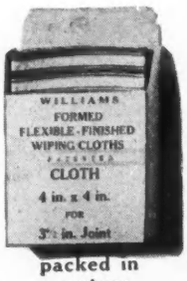

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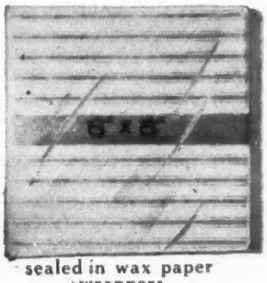

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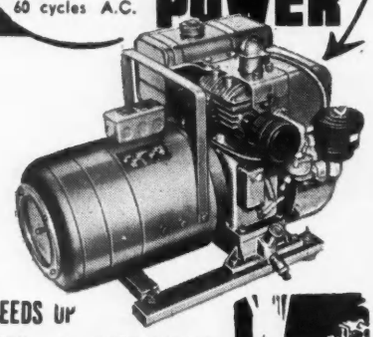

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Western Utilities Acquires Thornhill Publishing Corp.

CHESTER H. LOVELAND, president of Western Utilities Corp., San Francisco, Calif., has announced the acquisition by his company of the Thornhill Publishing Co., Everett, Wash.

The publishing company has been producing telephone directories throughout the west for many years. George B. Thornhill, owner of the firm, will continue to be in charge of directory operations for the new organization. He has had 16 years' experience in telephone directory publishing plus several years' experience in advertising, printing, photoengraving and allied businesses.

Mr. Loveland stated that the publishing company will be operated in the future as a division of Western Utilities Corp. New headquarters for the firm have been established in San Francisco, with branch offices at Everett, Wash., and Brownwood, Texas.

Under Western Utilities control Thornhill will begin operations by publishing directories for 127 communities in nine Western states, including Washington, Oregon, Idaho, California, Utah, Texas, Arkansas, Louisiana and Oklahoma. Aggregate annual advertising billing will be more than one million dollars.

The company offers complete directory services, including sale of advertising, production, printing, etc.

HARRY HUTZ, who joined C & D Batteries, Inc., Conshohocken, Pa., July 15, has been appointed electrical laboratory supervisor. Prior to joining C & D, Mr. Hutz was director of research at Reading Batteries

STROMBERG-CARLSON

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A DIVISION OF GENERAL DYNAMICS CORPORATION

VOLUME 5, NUMBER 7 • OCTOBER 1956

Designing for tomorrow:

Solid-state devices revolutionizing Communications-Part I

At the recently concluded U.S.I.T.A. National Convention in Chicago those in attendance saw ample and dramatic evidence that Stromberg-Carlson has already crossed the threshold into a new era of telecommunication design. Possibly the greatest challenge to the imagination as well as the most fruitful hope for radically new scientific advancement lies in the field generally known as "Solid-State Electronics."

Dealing with the control and utilization of the electric, magnetic and photo-sensitive properties of certain solids, the accumulation of knowledge begun in the last century and furthered by the more recent work of physicists, chemists and metallurgists in the laboratory is now finding greater and greater application in solving the problems of memory, translation and computation.

This first of a series of articles is a general introduction to solid-state devices as they are being utilized in the products of Stromberg-Carlson for the telecommunication industry.

Transistor is but one of these devices — The transistor is the most familiar such device, even though by no means the first commercial application of solid-state physics to electronic components. Its advantages — small size, light weight, low power drain and almost limitless life — have been well publicized. In common with other solid-state devices, it has the unique property that no detectable physical change takes place as it functions normally.

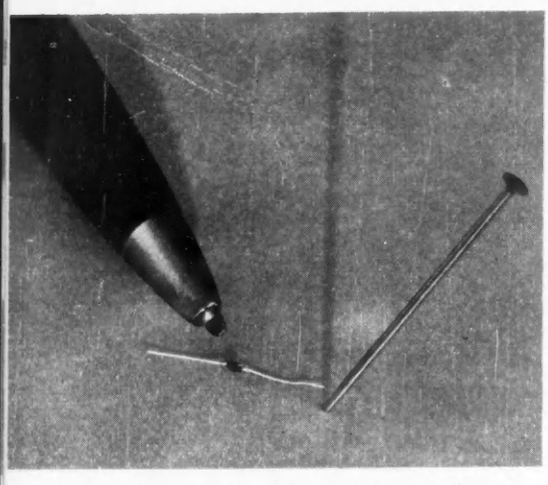
Briefly, what are the essential functions of transistors and other solid-state devices that have made them highly desirable circuit elements?

Transistor: a switch, responding in micro-seconds to a weak current in order to control a much larger current in exactly the same way — much as an enlarger blows up a miniature negative into a photographic image of mural size.

Magnetic Core: a memory device, "reporting" by a momentary spurt of energy that something has happened, as the core in response to applied energy shifts from one phase to another (becomes permanently magnetized in a direction opposite from normal). Cores may also be used as switching devices: in this application a current through a control winding destroys the magnetic properties of the core by saturation and allows current in the switching winding to flow freely.

Thermistor: a delaying device which,

A few of the various types of solid-state electronic devices used in Stromberg-Carlson products, grouped around postage stamp for size comparison. Included in this display are ferro-magnetic cores, transistors, varistors and diodes.



To overcome the inferiority complex of a common pin, photograph it next to a thermistor, as shown above.

as it heats, allows successively larger amounts of current to pass, thereby introducing the element of elapsed time.

Diodes: a discriminating device or gate through which signals below a certain magnitude cannot pass, but above this value will flow freely. Solid-state diodes are self-restoring, while neon diodes, once triggered, remain in same condition as long as current is applied; thus the latter may also serve as memory devices.

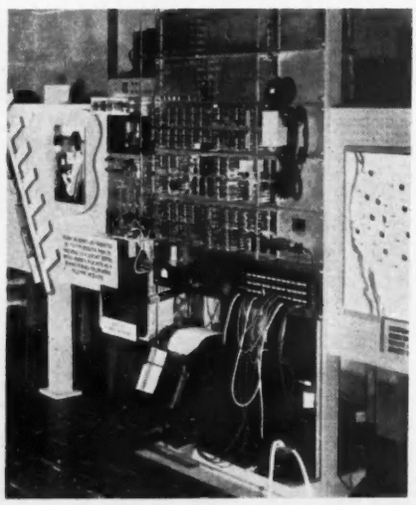
Combinations of two or more types — In reaching a solution for the highly complicated problems of data accumulation and processing, combinations of two or more types of solid-state devices are often employed. As an example, the ferro-magnetic core gives a quick spurt of energy as it shifts from one phase to another; in applications where there is a requirement for the circuit element to become magnetized quickly and with a minimum of power, but not lose this energized quality without the application of a much larger amount of power such as can be supplied by the transistor, we see the logical "teamwork" of two types.

Another example is a combination of cold cathode gaseous diodes and magnetic cores: in applications where an occurrence (in-put data) which happens momentarily but must be stored for an indeterminate period until needed, the core gives the initial spurt of energy as the data are registered while the lamp furnishes a continuous response to this momentary flash available when needed.

Curtain just being lifted — The solid-state devices mentioned above are but a few of the species of semiconductors having properties of interest to the scientist as phenomena to be studied and to the engineer as the nuclei for further application in the communications field. Many solid-state materials remain to be investigated, and as more knowledge of their properties is obtained, the curtain will be lifted on a new era in electronics.

The next article in this series will review some of the applications of solid-state devices to the type of product manufactured by Stromberg-Carlson. A subsequent article will be devoted to the laboratory studies of the basic structure and the peculiar properties of various solid-state materials now in full progress at Stromberg-Carlson.

After we learn what these solid-state devices can do, how do we use them? The data processing equipment below sorts, analyzes, computes and reports conditions over a far-flung operation network.



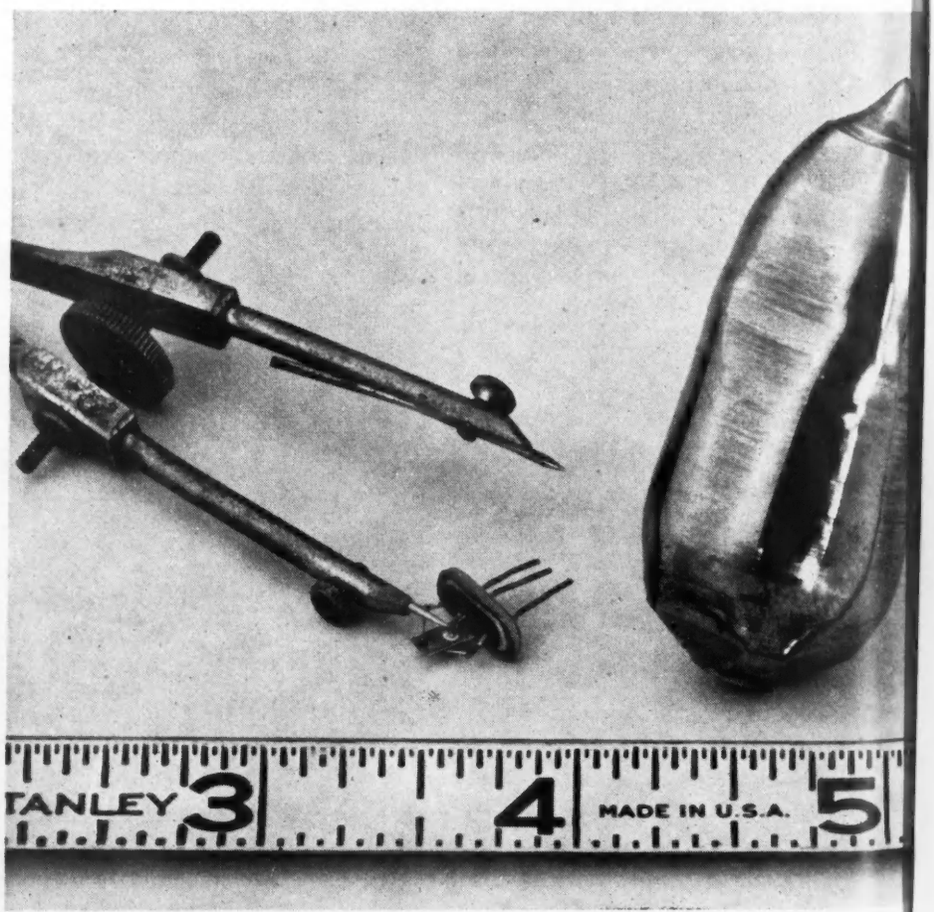


Photo of a germanium crystal in natural state. Dividers point to the minute particle of active material as employed in a typical transistor.

Coil-capacitor units are now completed on this progressive, paced assembly line. Standing (left) Owen Howk, department foreman, and (right) Edith Karnisky, group supervisor for this operation.

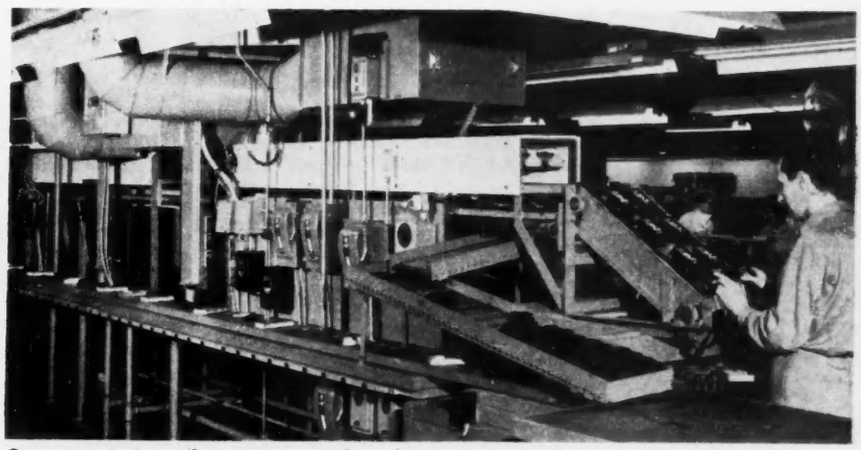
Improved Production Facilities for Telephone Coil-Capacitor Unit

As vital as the motor of an automobile, the coil-capacitor unit is the heart of the telephone instrument. It must be right — and needless to say, it must be included! The marked increase in Stromberg-Carlson instrument sales of all types necessitated a revamping of production facilities for this important component. Result: a progressive, paced assembly line, with a fully automatic pouring machine for sealing the unit with hydrolene to make it impervious to humidity or mechanical damage. The new facilities were installed by Mr. Leonard Weber and Mr. Charles Leveson of the Telecommunication Division maintenance staff.

Whenever an assembly operation is mechanized, the natural first question is, "What about the workers?" Not only are they still there, but each individual is more important than ever! This quickly became apparent as a thorough procedures training was worked out cooperatively between Mr. Owen Howk, department foreman, Miss Edith Karnisky, group supervisor, and the production engineers under the direction of Mr. Howard Squires.

Close-up of magazine-fed automatic screwdrivers. Regina Hines inserts terminals in coil-capacitor housing.

Electrical inspection is just as vital as ever. LeMoyne French buzzes out each terminal; if any part of circuit is open or crossed, entire unit is rejected.

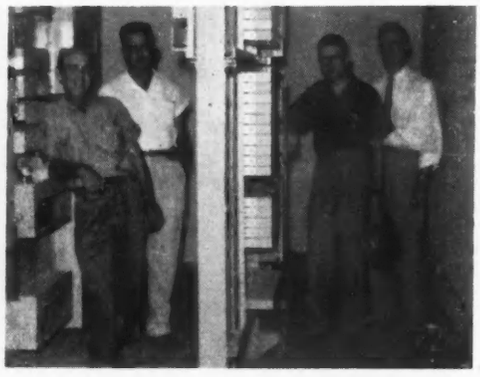


Conveyor carries coil-capacitor unit through pouring cycle. Amount of hydrolene, heat, and indexing are fully automatic. Machine has two ovens — one to pre-heat unit before pouring, the other to re-heat unit after pouring to settle and smooth hydrolene.

News From Our Customers...

Mrs. Everett Cooksey, wife of the manager of the Burdett (Kansas) Telephone Company, marks the end of an era as she plugs in the last local call before cutover to XY dial. The advent of modern dial service climaxes a two-year period of planning and working.

In the equipment room of the new Burdett telephone building Mr. Cooksey, far left, points out the features of XY equipment to company officials, who are, left to right, Earl Haymond, Director and Treasurer; Maurice Daughenbaugh and Elmer Steffen, Directors; Fred G. Weidmann, Director and President; and Delmar Steffen, Director. Directors not in the picture are Howard Thompson and Lester Preston.

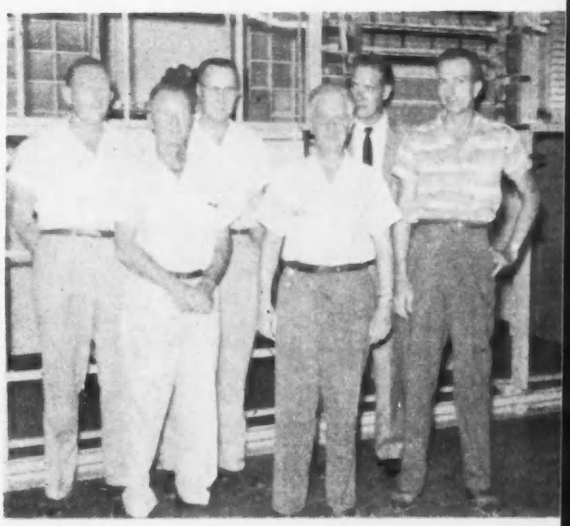


Cutover time at the Mabank exchange of the Gulf States Telephone Company at Tyler, Texas, found a number of company officials ready to inspect the new XY dial equipment. They are, left to right, Grady Shirey, District Manager of the company; Donald Lamb, Assistant to the General Manager of Gulf States; Rolla Johnson, General Manager; and Kenneth Kelly, Stromberg-Carlson sales engineer.

New XY equipment in a new building has brought the Junction City exchange of the Union Telephone Company, Smackover, Arkansas, completely up to date. John W. Carter, company President, makes the first call on the new dial system, as Junction City Mayor O. W. Jackson looks on. In the picture at the right, J. A. Roe, manager of the Junction City exchange, tests the new equipment. Many years ago the principal exchange of this company, at Smackover, put in one of the first XY Dial systems in this area.

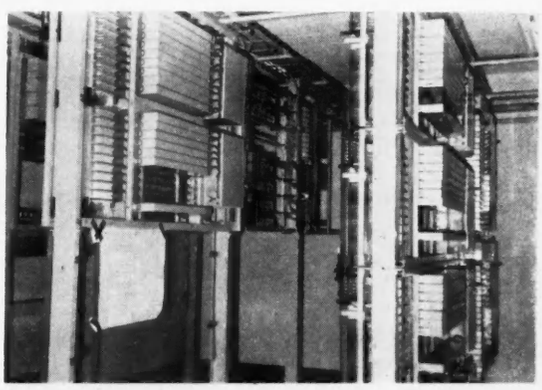
Two lovely daughters of Mayor Mulholland of Granger, Texas, pull the switches to formalize the cutover to XY dial at the Granger exchange of the Southwestern States Telephone Company. Theresa Mulholland is at the left and Mrs. Mary Lou Kurtin is at her side.

Gathered in the equipment room of the Granger telephone building are Stromberg-Carlson representative Jim Young and these Southwestern States officials, reading left to right: James Witt, Division Installer; R. C. Welty, Plant Supervisor; Don German, Equipment Supervisor; John Gochenauer, Division Wire Chief; and J. C. Parker, Wire Chief of the Granger exchange.



A highlight of the recent county fair at Colusa, California, was this colorful telephone display set up by the California-Pacific Utilities Company of San Francisco. Under the general supervision of District Manager Gayle Smith, the exhibit was managed by Mrs. Josephine Harman, Mrs. Dorothy Keil and Mrs. Bonnie Grussenmeyer, left to right, who took care of demonstrations and merchandising. The company was delighted with consumer response; plans similar demonstrations in some of its other exchange areas during the Fall and Winter.

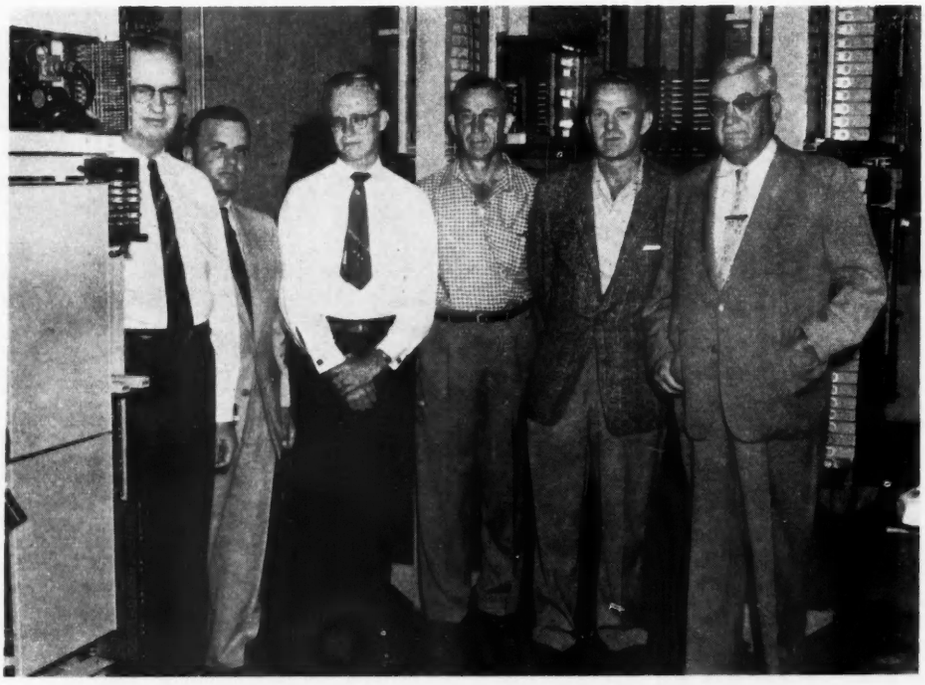
The smart, modern building above is the new office of the Clinton exchange of the Arkansas Telephone Company, whose headquarters are at North Little Rock. New XY dial equipment is shown in the picture at left. Angel Allen is President of the company and Wilber Hale was vitally concerned with cutover operations. He had a great deal to do with testing the system before final approval.



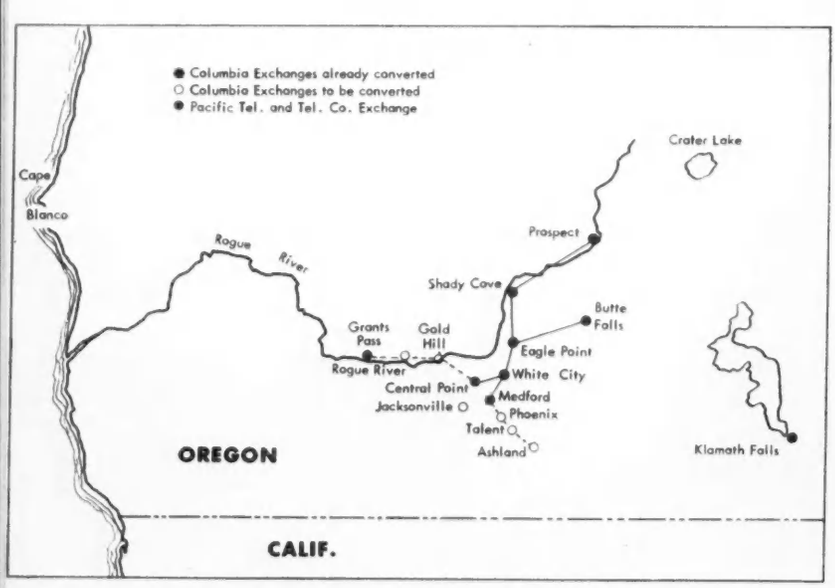
W. E. Lyon, Manager of the Mid-States Telephone Company, seems to be having trouble getting his connection at Hutlo, Texas, but he's only kidding. Actually, the Hutlo exchange is on XY dial now, and the problem he is illustrating is past history. In the picture at the right the new equipment gets a careful once-over from W. S. Bain, Mid-States President; Jim Holman, Mayor of Hutlo; and William Reichel, consulting engineer.

White City, Oregon

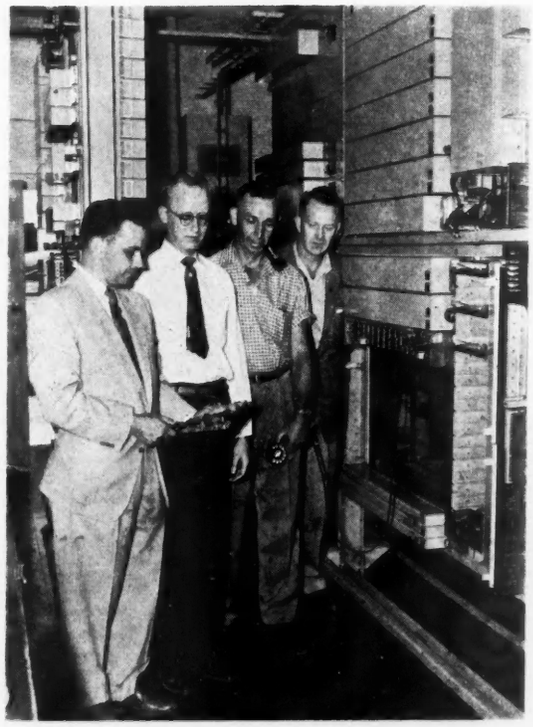
Custome



Everyone here played a major part in succesful cutover of XY Toll Ticketing at White City. L-R, John W. Kirby, vice-president of Columbia Utilities; E. D. Larson, Stromberg-Carlson sales representative; James Kirby and Fred Bruegger of Columbia Utilities; Fred McGrady, sales engineer for Stromberg-Carlson; Mr. D. O. Hood, president of Columbia Utilities Company.



Map of the exchange area served by the Columbia Utilities Company, showing present and projected customer toll dialing facilities.



Examining the XY Toll Recorder, which uses erasable magnetic tape to store information pertaining to toll charges until "read out" for subscriber tickets: Messrs. Larson, James Kirby, Bruegger, McGrady.

...etwork of exchanges has

...irect Distance Dialing

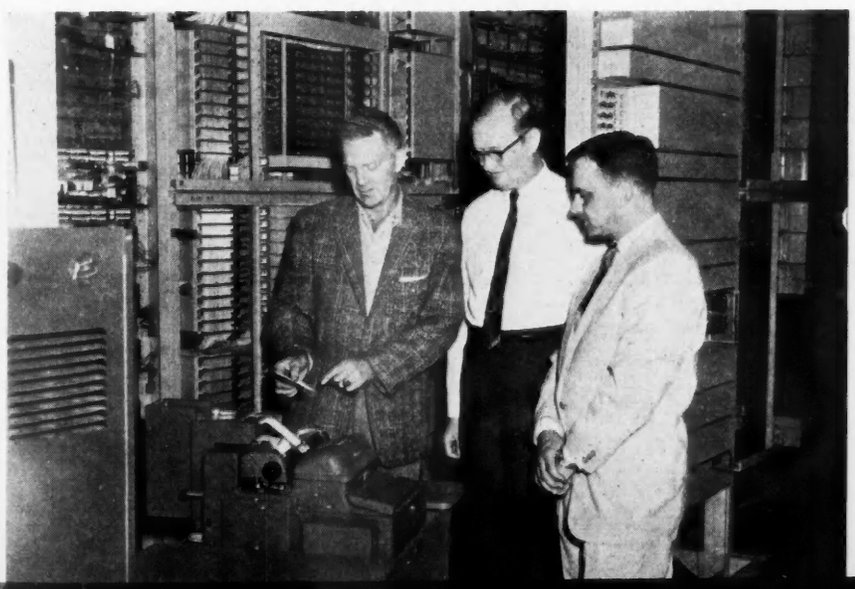
First in Oregon, and one of the first such installations in the entire country — customer direct toll dialing is now in effect to five of the exchanges of the Columbia Utilities Company of Medford, Oregon, with the extension of this advantage to the remaining exchanges of the network planned for early next year.

This landmark in Northwest telephone progress is a great personal triumph for Mr. D. O. Hood, president of Columbia Utilities and longtime leader among Independent executives. Mr. Hood has made a habit of giving progressive ideas a prod and a push; since entering the public utility field in 1926 his organization has kept modernization in tune with growth — all 12 telephone exchanges are converted to dial operation and the extensive company-owned toll lines now set the pattern for others to follow. Mr. John W. Kirby, Sr., vice-president, and Mr. Fred Bruegger, plant superintendent, are continuing the pace-setting tradition established by Mr. Hood.

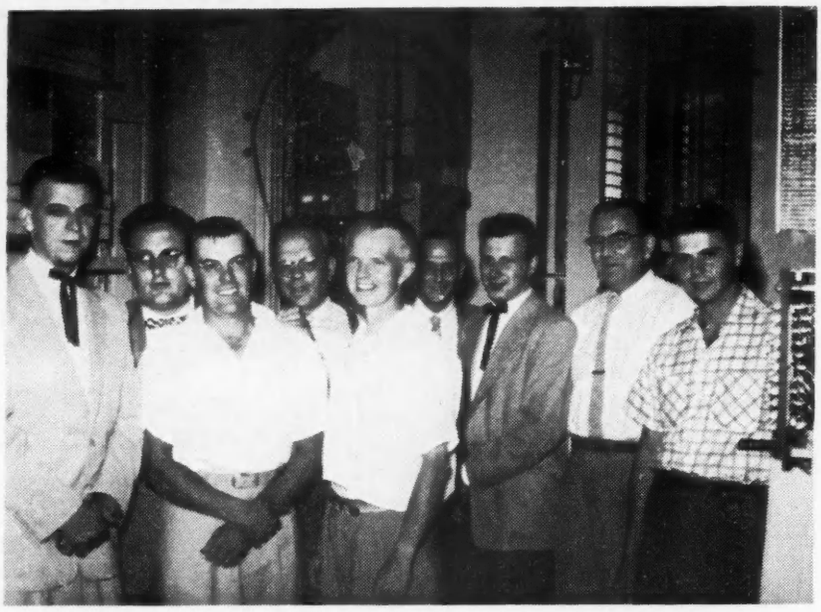
Center of the XY Toll Ticketing System for Columbia Utilities is White City, northeast of Medford, Oregon. Here will be the electronic data processing equipment which computes the charges and prepares the toll tickets for all the exchanges in the network. At the present, and until nationwide customer direct distance dialing has been realized, the present manual toll board at White City will remain in operation for long distance, person-to-person, "collect" and similar calls. But in supplying XY Toll Ticketing facilities for all inter-exchange service, the company saved the expense of adding several positions to its manual board, while assuring itself a profitable short haul toll revenue operation with the best possibilities for return on capital investment. Thus they have anticipated the inevitable direction in which toll business — if it is to be retained — must eventually move.

The system at White City was installed under the supervision of Richard K. Boyd and John H. Bunting of Stromberg-Carlson. Key personnel of Columbia Utilities who will oversee the operation have been given on-the-job training by the Stromberg-Carlson engineers mentioned above.

Mr. D. O. Hood, leader in this project as in so many other improvements in general telephone service in the Northwest, places first call over the system.



A complete toll ticket ready for the customer is produced as part of the fully electronic-automatic process without any interposition of the human element. Fred McGrady shows sample ticket to John Kirby, Ernie Larson. Billing may be made through punched cards or tape if preferable.



Pictured at Hancock, Minnesota, as telephone company inaugurates XY Dial system: Ed Novak, Stromberg-Carlson installation foreman; Al Gear, Stromberg-Carlson service engineer; Bradley Oksendahl, manager of the Hancock Telephone Company; Herman Strobel of Fargo, N. D.; Gerald Cass, president of Hancock Telephone Company; Billy Whaley of Fargo; Jerry Suomalainen, Stromberg-Carlson installer; Orville Douglas and Maurice Strobel, also communications consultants from Fargo.

Hancock, Minnesota, has TPS with FM

This isn't about FM radio concerts, even though the new XY dial exchange at Hancock, Minnesota, does make sweet music for Gerald Cass, owner, Bradley Oksendahl, manager, and their subscribers. "TPS," of course, means "terminal per station" — more and more the choice of the smaller and middle-sized offices as well as the larger city exchanges. And "FM" refers to "frequency marking" — possible with XY dial equipment, whereby the expense of directory number changing is virtually eliminated, as well as a number of other operating advantages.

Mr. Cass acquired the Hancock Telephone Company seven years ago and has worked steadily toward the dial conversion completed this summer. The system in service is "ahead of its time" — ready and waiting for nationwide intertoll dialing as soon as its larger neighboring toll centers are able to convert. In the meantime Mr. Cass and Mr. Oksendahl have given their subscribers the very best in local service — and you may be sure it is appreciated by their public.

Families have a right to be happy. Mr. and Mrs. Cass and daughter Gwen; Mr. and Mrs. Oksendahl shown relaxing after completion of the cut.

Nearly half a century of service

Clifton O. Dasson

Think back to 1909 when Clifton O. Dasson, known to all as "Spike," began his telephone career with Stromberg-Carlson. There was not a dial exchange in the entire Bell System; people were to wait another six years before the first transcontinental call could be made! One had to learn a lot about magneto operation and that new miracle of efficiency — the auto-manual switchboard.

Spike Dasson learned all this well, but preferred to spend his time studying and applying the newer techniques as they were developed in the research laboratories. This is one reason why he was asked, during both World Wars, to place his telephone experience at the service of his country. Few men have such a balanced knowledge of communications, spanning local battery to electronics, manual toll to automatic toll ticketing.

The nicest thing about the recent party held to honor Clifton Dasson at his formal retirement was the statement that he is not hanging up his "spikes" — as part time consultant for the company he has served so well, he will continue to guide challenging jobs to a successful conclusion and help to train the younger men who are engineering the systems for the coming generations.

STROMBERG-CARLSON TRANSMITTER

Published by
The Telecommunication Division
STROMBERG-CARLSON COMPANY
A DIVISION OF
GENERAL DYNAMICS CORPORATION
Rochester 3, New York
GEORGE B. FORBES, *Editor*

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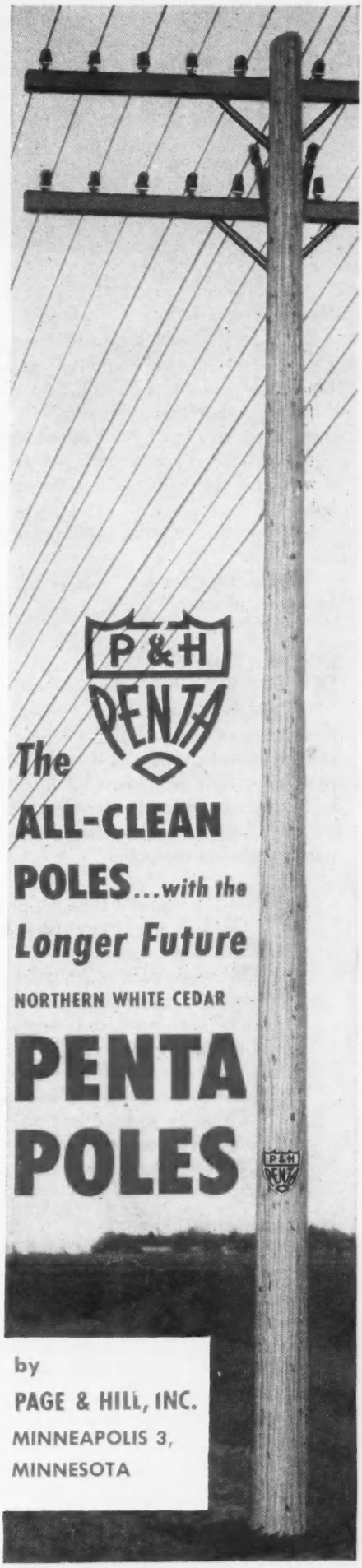


the BACK of the BOOK

By John G. Reynolds

Memo From Japan

WE LEARN from Roger Devlin of the *Tulsa Tribune* that directions found on a public telephone in Japan includes the following:

(a) Please ready with Yen 10 coin, take off the transmitter and lastly send round the dial.

(b) When not connected, put on the transmitter as it was, and the coin put in will come out on the return hole.

(c) For the suburbs communications, please notify it.

"Okay," says Devlin. "But before you laugh, is your Japanese as good?"

Ode to a Pole

THE NEW YORK Telephone Co. tells us that out in Wainscott, Long Island, recently, a two-man line gang had just placed a new telephone pole when a local property owner ventured the opinion that the pole had been incorrectly located on her land. The linemen agreed to return next day after she had discussed the matter with her husband. When they returned, they found this poem pinned to the pole:

First it's yes, and then it's no!
  Can't decide where the pole should go.
Do not fuss, and do not fret;
  We've decided to let it set.
Don't you agree aesthetically,
  The pole is where it ought to be?
Thank you once, and thank you twice:
  You both have been so very nice.
When you read this silly rhyme
  Please be so kind and take the time
To write a note, so I will know
  That you have been, but now must go.

New Exchange

IT SOON will be possible to put through a *telephone* call to Hell, an isolated area in a less rugged mountain region in the Prince Albert District, near Pearl, South Africa.

It is one of the most inaccessible villages in the Union of South Africa and its only means of communication with the outside world so far has been a rough trail.

Telephone extensions now are being laid in the Prince Albert district.

Weird Tales By Phone

FROM OUR Texas correspondent we learn that in Amarillo, work at a telephone-answering service is almost as interesting as listening in on a session with a psychiatrist.

It seems the telephone masks the speaker in some sort of anonymity, making him feel free to tell anything and everything to whoever is on the other end of the line.

"I have been told things over the telephone," said Mrs. Norma Fields, one answering service employe, "that I wouldn't tell my best friend in a darkened room — not even in a whisper."

One woman asked an operator to call her every 15 minutes during the evening; she had unwanted company and wanted periodic interruptions.

Misplaced Receipt

THE CURRENT issue of the Western Electric "*Observer*" tells us *J. M. Brogley*, of the Newark Area, was taken back a bit recently when some of his buddies got him in a corner and demanded the wrenches he borrowed 33 years ago. When Mr. Brogley protested his innocence, the boys produced a time scarred tool receipt dated January 11, 1923, with the words "I borrowed two wrenches from the W. E. Co., and it was signed J. M. Brogley. Furthermore, the receipt had never been marked "returned."

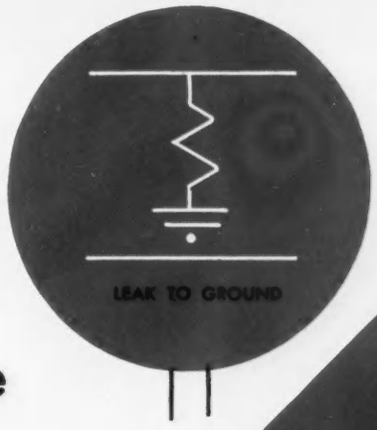
After a little kidding, the story came out. After cutting in the new No. 5 crossbar office in Montclair, N. J., the men began to dismantle the old manual office. Stuck in a remote corner of the "B" board multiple they found an old scrap of paper. It turned out to be the receipt Brogley had signed 33 years ago.

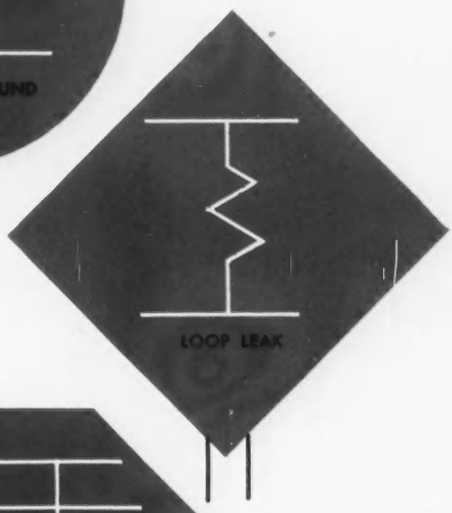
Brogley maintains upon his honor as a "New Jersey Gentleman" that the wrenches were returned, but he kept the receipt as a souvenir.

"It Makes A Difference"

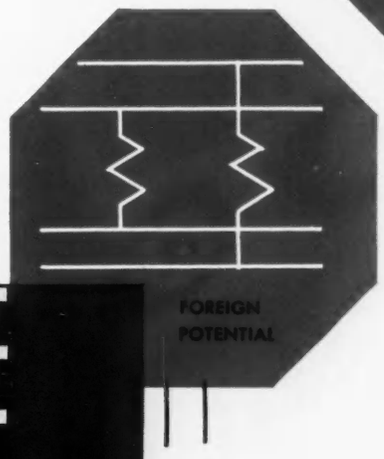
ALTHOUGH there are no Michigan Bell customers with phonevision as yet, *Carmen Carter*, Fremont operator, says she was verifying on a coin box call one day. Woman answered rather breathlessly, "Yes, I'm Mrs. So-and-So, but wait just a minute, operator, while I put some clothes on." Then, man who had placed call interrupted to say, "It's all right, operator. That's my wife."

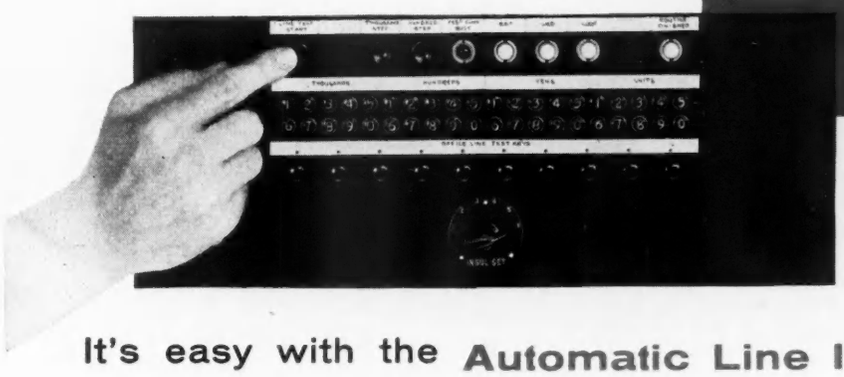
This story was nearly topped by *Helen Stankus*, Fremont operator, who reported she was leaving word on a call to Brooklyn, New York, recently. She said, "Will you please notify Mr. X to call Fremont, Michigan, operator 7 and ask for White Cloud 9701." Person in Brooklyn requested that Helen repeat information, then asked: "Is this call coming from an Indian Reservation in Michigan?"





Can you spot these DANGER SIGNS in time?





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